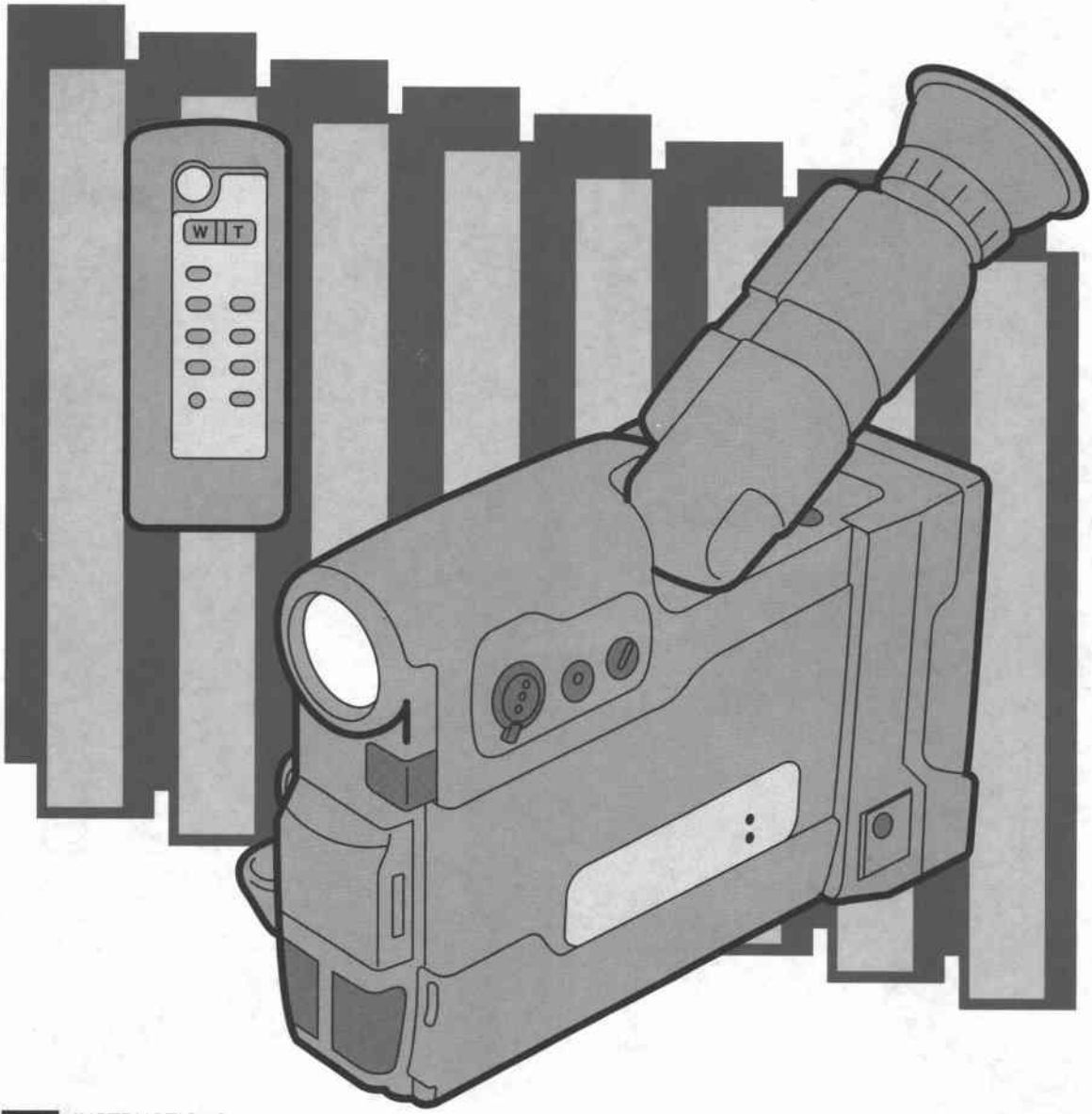
e3/19-195

Hi 8

Canon UC30Hi

8mm VIDEO CAMCORDER

Instruction Manual



E INSTRUCTIONS

Thank you for purchasing the Canon 8mm Video Camcorder UC30Hi. This camera can be used for both recording and playback of video cassettes in 8mm or Hi8 format.

- Please use only video cassettes bearing the Hi 8 mark (E5/P5 types) or 8 mark (P5 type) with this camera.
- With the UC30Hi, stereo recording is possible. However, tapes recorded in stereo will play back on monaural 8mm VTRs in monaural.

■ Please check that this package contains the following items:

UC30Hi
- Lens Cap and Lens Cap Cord
- WL-51 Wireless Controller
- Two R03/AAA Batteries
- DC-200 DC Coupler

BP-E77K Battery Pack
CA-200 Compact Power Adapter
SS-200 Shoulder Strap
P5-30 HMP 8mm Video Cassette

The connecting accessories included in the kit vary according to areas. Use the following chart to determine what your kit should contain:

	UK, EUROPE, etc.	ASIA, OCEANIA, etc.
S-150 S-Video Cable	1	1
RU-100 RF Unit	1	–
ST-150 Stereo Cable	1	1
C-150 AV Cable	–	1

■ Optional Accessories

BP-E722 Battery Pack
BP-E722D Battery Pack
CA-100 Compact Power Adapter
CB-110 Car Battery Adapter
MC-100 Multi-battery Charger
HC-U2 System Case
SC-U1 Soft Carrying Case
VK-U1 Video Backpack
SJ-U1 Soft Video Jacket
RS-U2 Rain Shield
SR-27/37 Step-up Ring
TL-37 Tele-converter
WD-37 Wide-converter
WA-37 Wide Attachment
FS-37U Filter Set
FS-37 Filter Set
MM-200 Stereo Mixing Microphone
WS-20 Wrist Strap
VL-20 Battery Video Light
SA-1 Adapter Bracket
RGB-100 RGB Converter
(available in U.K. and Continental European countries)
PC-150 SCART Cable
PC-170ST Stereo SCART Cable
PC-270SST S-stereo SCART Cable

Important Usage Instructions

CAUTION:

TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

WARNING:

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.

CAUTION:

TO REDUCE THE RISK OF ELECTRIC SHOCK AND TO REDUCE ANNOYING INTERFERENCE, USE THE RECOMMENDED ACCESSORIES ONLY.

Contents

Important Usage Instructions 1

Before Using Your Camera

Nomenclature 6
Wireless Controller 8
Viewfinder Displays 10
Power Sources 14
- Battery Pack 14
- AC Power/Car Battery 18

Camera Preparations 20
- Attaching Straps 20
- Adjusting Grip Belt 20
- Lens Cap 20
- Adjusting Viewfinder Angle 21
- For Low-Angle Shooting 21
- Adjusting Diopter 21
- Removing and Attaching Finder 21

Setting Date and Time 22
- Concerning the Rechargeable Lithium Battery 24

Loading and Unloading Video Cassettes 25
- What is Hi8? 27

Basic Operations

CAMERA and PLAY Modes 30
Camera Recording 32
Record Search 36
Record Review 37
Playback Connection 38
Playback Procedure 44
Special Playback Methods 46
Tape Return 48

Advanced Operations

Focusing 50
Zooming 53
Program AE 54
Menu System 56
Edit-erase 58
High-Speed Shutter 60
White Balance 62
About Backlight 64
Blank Tape Search (B.T.S.) 65
Fade 66
Fade Trigger 67
Selecting Tape Speed 69
Recording Date and Time 70
Tally Lamp off Function 71
Remote Sensor off Function 72
Using an External Microphone 73
Wind Screen Function 73
Using a Tripod 74
Using Filters 74
Editing to Another VTR 75

Additional Information

Canon UC30Hi Video System Chart 78
Optional Accessories 79
Problems and Troubleshooting 86
Condensation (DEW) 88
Specifications 89

INDEX

Before Using Your Camera

Nomenclature

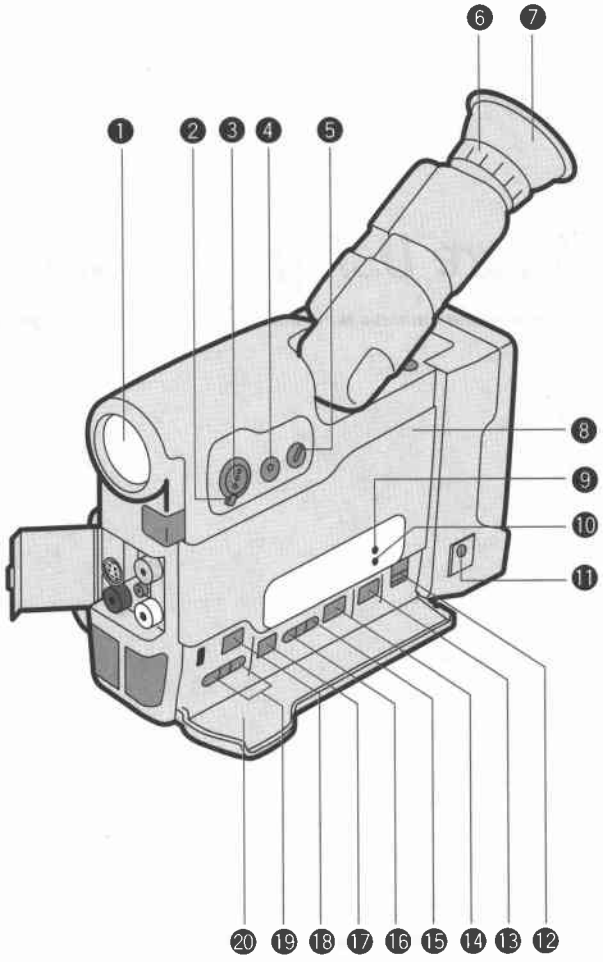
Right View [1]

For details, refer to the page numbers in parenthesis.

❶ Lens
❷ Program AE Selector
❸ FADE Button (p. 66)
❹ BLC (Backlight Compensation) Button (p. 64)
❺ DATE Button (p. 22, 70)
❻ Diopter Adjustment Ring (p. 21)
❼ Eyecup
❽ Video Cassette Compartment (p. 32)
❾ CAMERA Indicator (p. 30)
❿ PLAY Indicator (p. 30)
⓫ MIC (Microphone) Terminal (p. 73)
⓬ EJECT Switch (p. 25)
⓭ MODE SELECT Button (p. 30)
⓮ SELECT (p. 31)/ (Record Review) (p. 56)/ ■ (Stop) Button
⓯ REC SEARCH (p. 31, 36)/ + (Forward) (p. 22) / ►► (Fast Forward) (p. 44) Button
⓰ REC SEARCH (p.31, 36)/ – (Backward)(p. 22) ◄◄ / (Rewind) (p. 44) Button
⓱ MENU (p. 31, 56)/ ► (Play) Button (p. 44)
⓲ AF ON/OFF Button (p. 50, 52)
⓳ POWER FOCUS Buttons (p. 50, 52)
⓴ Button Cover

[1]

Pull out finder when you are viewing.



Left View [2]

㉑ Viewfinder (p. 10)
㉒ Finder Release Switch (p. 21)
㉓ Tripod Socket (p. 74)
㉔ Grip Belt (p. 20)
㉕ Power Zoom Buttons
(T: Telephoto/W: Wide angle) (p. 53)
㉖ OPERATE Button (p. 32, 44)
㉗ Start/stop Button (p. 32)
㉘ Strap Attachment Bars (p. 20)
㉙ Battery Pack Compartment (p. 15)
㉚ BATT (Battery) EJECT Lever (p. 15)
㉛ C. (Counter) RESET Button (p. 48)
㉜ WIND SCREEN Switch (p. 73)
㉝ TAPE RETURN Button (p. 48)
㉞ START/STOP Button (p. 21, 32)

Front View [3]

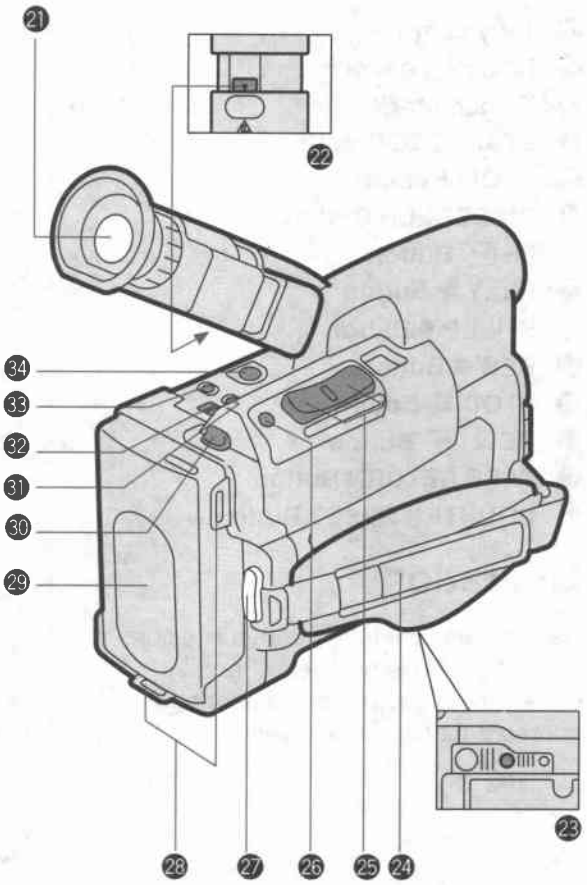
㉟ Remote Sensor (p. 8, 72)
㊱ Video Output Terminal (p. 38, 75)
㊲ DC Out Terminal (p. 40)
㊳ Audio Ⓛ (Left) Output Terminal (p.38)
㊴ Stereo Microphone
㊵ Audio Ⓡ (Right) Output Terminal
(p. 38)
㊶ S-VIDEO Output Terminal (p. 38)
㊷ Tally Lamp (p. 7, 71)

Tally Lamp

The tally lamp performs the following functions:
- Recording (Flashes rapidly)
- Wireless controller operation (Lights up)

- When TALLY is selected from MENU 2, the tally lamp will not flash. However, it will light up during wireless controller operation.

[2]



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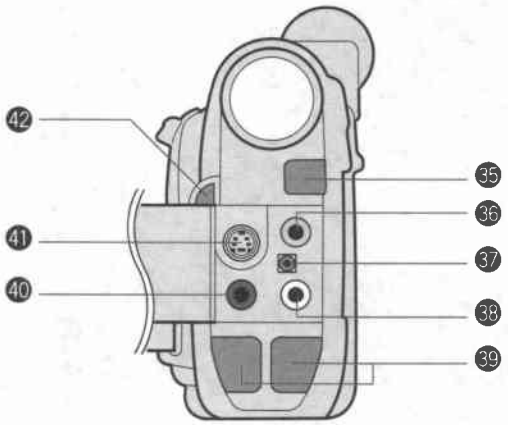


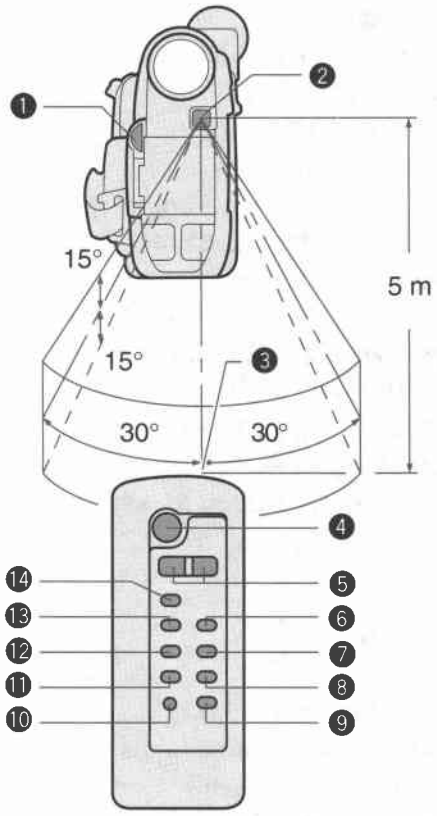
Wireless Controller

The wireless controller can be used to operate the camera from a distance.

❶ **Tally Lamp**
❷ **Remote Sensor**
❸ **Transmitter**
❹ **START/STOP Button**
❺ **ZOOM Buttons**
❻ **ON SCREEN Button**
❼ **FF ⏩ Button**
❽ **PLAY ▶ Button**
❾ **STILL ▶⏮ Button**
❿ **REC ● Button**
⓫ **STOP ■ Button**
⓬ **REW ⏪ Button**
⓭ **TAPE RETURN Button**
⓮ **COUNTER RESET Button**

Operation

Use wireless controller from a position within 15° above and below, and 30° to either side of the remote sensor and not more than 5 metres away from camera.



Inserting Batteries

The wireless controller operates on two R03/AAA batteries.

1. **Press down on battery compartment cover and slide off in direction of arrow.**

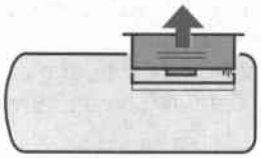
2. **Insert two R03/AAA batteries, checking the polarity (+ and –). Be careful not to reverse polarity of batteries.**

3. **Replace cover following guide grooves.**

Notes:

- Do not leave the wireless controller:
  1 Exposed to direct sunlight
  2 Near a heater
  3 In a hot or humid place
- The wireless controller uses an infrared beam to transmit signals, so sunlight or fluorescent light may shorten the operating distance. The camera may also have difficulty in detecting the signal if the wireless controller is used at extremely close range.
- When changing exhausted batteries, replace all batteries at once.

1



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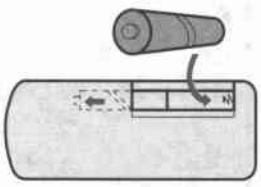

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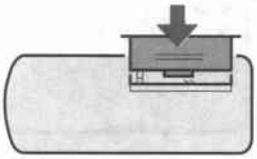
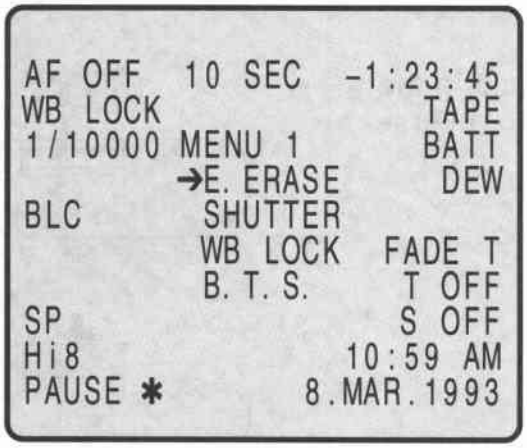
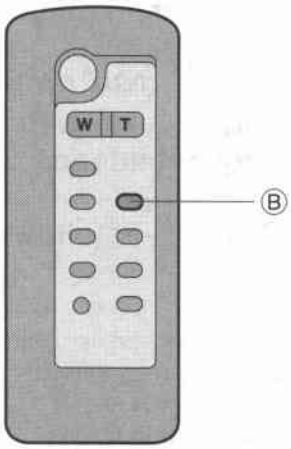


Viewfinder Displays

Press the ON SCREEN button on the wireless controller to see the viewfinder displays on a connected TV screen. Press the ON SCREEN button again to cancel the display.
• Only date and time are recorded with the scenes.

Ⓐ

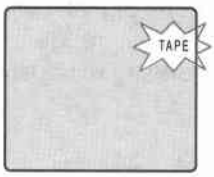


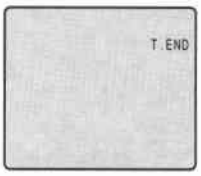


Ⓐ Viewfinder Display
Ⓑ ON SCREEN Button

NO. Mode	Display	Description
● Tape Status	TAPE (flashes)	No cassette is loaded or an unrecordable cassette is loaded.
	T. END	Tape has reached the end.
● Battery Warning	BATT (flashes)	Battery charge is nearly exhausted.
● Condensation Warning	DEW (flashes)	Condensation is detected in camera.

❶





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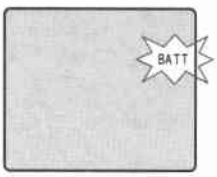

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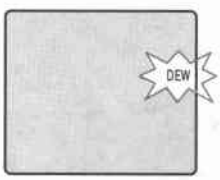
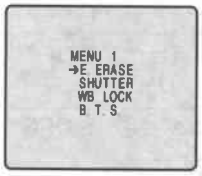
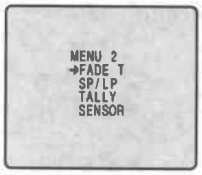


NO. Mode	Display	Description
❹ Program AE	(No display)	AUTO mode is selected
(p. 55)	PORTRAIT	PORTRAIT mode is selected
(p. 54)	SPOT	SPOTLIGHT mode is selected
(p. 55)	SAND & SNOW	SAND & SNOW mode is selected
❺ Menu 1 (p. 58) (p. 60) (p. 63) (p. 65)	MENU 1 E. ERASE SHUTTER WB LOCK B.T.S.	Menu 1 display: Each function of this menu can be selected and set.
Menu 2 (p. 67) (p. 69) (p. 71) (p. 72)	MENU 2 FADE T SP/LP TALLY SENSOR	Menu 2 display: Each function in this menu can be selected and set.
❻ Edit-erase (p. 58)	✱	Appears when edit-erase function can be used, for approximately 40 seconds after recording starts.
❼ Shutter Speed (p. 60)	(No display)	Normal shutter speed (1/50 and 1/250)
	1/50	1/50th of a second
	1/120	1/120th of a second
	1/250	1/250th of a second
	1/500	1/500th of a second
	1/1000	1/1000th of a second
	1/2000	1/2000th of a second
	1/4000	1/4000th of a second
	1/10000	1/10000th of a second
❽ White Balance (p. 62)	(No display)	Auto white balance
	WB LOCK	White balance lock
❾ BLC Mode (p. 64)	BLC	Backlight compensation

❹

❺





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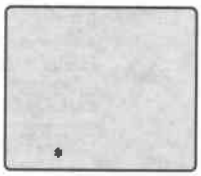

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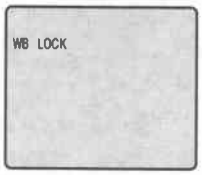

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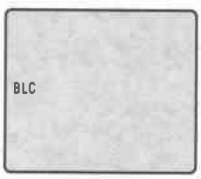
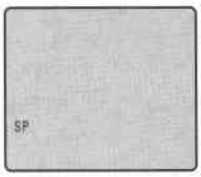


NO. Mode	Display	Description
⑩ Fade Trigger (p. 67)	FADE T	Fade trigger function is selected from MENU 2.
	T (flashes)	Camera is ready to record with fade in or fade out.
⑪ Tape Speed (p. 69)	SP	Standard Play
	LP	Long Play
⑫ Tally Lamp (p. 71)	T OFF	Tally lamp off mode is selected.
⑬ Remote Sensor (p. 72)	S OFF	Remote sensor off mode is selected.
⑭ Operation	PAUSE	Record pause
	REC	Recording
	PLAY	Normal playback, fast forward playback or rewind playback
	STILL	Still playback
	STOP	Stop
	FF	Fast forward or fast forward search
	REW	Rewind or rewind search
	EJECT	Eject function
	EJECT (flashes)	Safety mechanism functions.
⑮ Time (p. 22)	12:00 AM to 11:59 PM	Present time
⑯ Hi8	Hi8	Hi8 recording mode.

⑩

⑪



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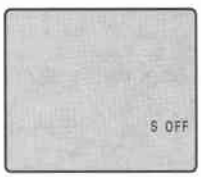

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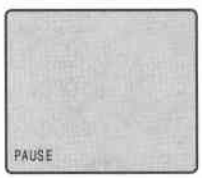

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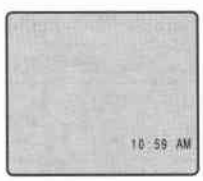
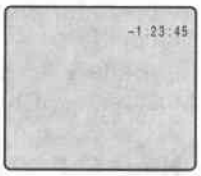


⑯

NO.	Mode	Display	Description
⑰	Date (p. 22)	1. JAN. 1992 to 31. DEC. 2011	Current date
⑱	Tape Counter	–9:59:59 to 9:59:59	Tape counter reading
⑲	Recording Reminder	0 SEC– 10 SEC	Recording reminder
⑳	Focus mode (p. 50)	(No display)	Autofocus mode is selected.
		AF OFF	AF OFF is displayed in power focus mode.

⑰

⑱



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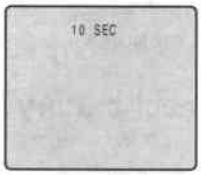

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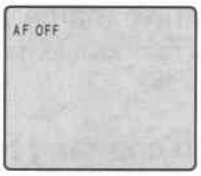


Power Sources

Battery Pack

Charging Battery Pack

The following accessories can be used to charge the battery pack.

- CA-200 Compact Power Adapter
- CA-100 Compact Power Adapter (Option) (see page 80)
- CB-110 Car Battery Adapter (Option) (see page 18)
- MC-100 Multi-battery Charger (Option) (see page 80)

Using the CA-200 [1]

(For information on other accessories, refer to the relevant instruction manuals.)

1. Connect battery pack to CA-200.

- Make sure that the CA-200 guide ❶ slides into the battery pack slot ❷.

2. Plug into mains outlet.

- Charge indicator (orange) ❸ flashes as charging begins.

3. When charging has been completed (the charge indicator lights up), remove battery pack.

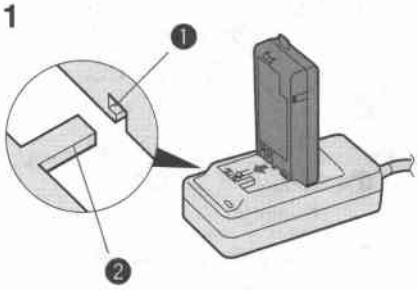
- Slide battery pack off the CA-200 to remove.

Battery Pack	Continuous recording time	Charging time
BP-E77K	approx. 45 minutes	approx. 70 minutes
BP-E722/E722D	approx. 100 minutes	approx. 130 minutes

- Do not recharge the battery pack immediately after use. Charge the battery pack only after the power supply of the camcorder automatically turns off.

[1]

1



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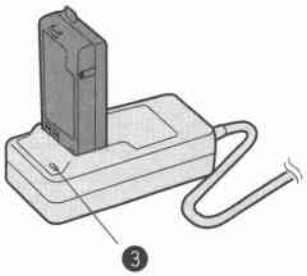

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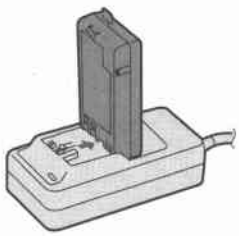


Attaching Battery Pack [2]

1. **Insert marked end of battery pack into power source compartment.**
2. **Press battery pack until it clicks and locks into place.**

Removing Battery Pack [3]

1. **Hold BATT EJECT lever pressed in direction of arrow and pull top of battery pack as shown.**
2. **Remove battery pack.**

The battery pack is a rechargeable power source. Make sure it is fully charged before use. This camera can also be operated from AC power or from a car battery (see page 18).

- The power consumption of the video camera varies according to the operation mode. Consequently, the actual recording time may be shorter than the time shown above and on page 17.
  Using the battery pack in low temperatures will shorten the recording time.
  When recording under these conditions, it is recommended to prepare enough battery packs to cover two or three times the scheduled length of time.
  Make sure the power is turned off when not using the camera. The camera will continue to consume power when the power is on. (The camera also continues to consume power even when the power is turned off. See page 19.)

❶ **BP-E77K**

❷ **BP-E722 (Option)**
With about twice the capacity of BP-E77K this battery pack can be used for lengthy recordings. The continuous recording time of BP-E722 is approximately 100 minutes.

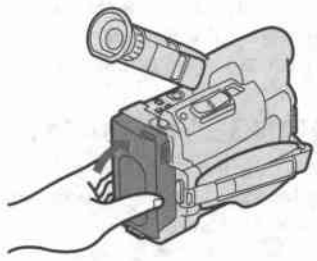
❸ **BP-E722D (Option)**
In addition to its 100 minutes long-recording capacity, this battery pack is equipped with LED indicators for displaying the remaining charge.

Canon camcorders and accessories are manufactured with great care and strict quality control. It is recommended that you use only genuine Canon brand accessories for your camcorder to ensure maximum performance.

[2]

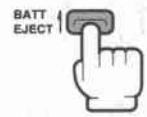
1

2



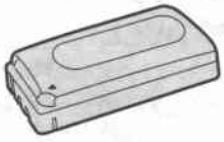
[3]

1

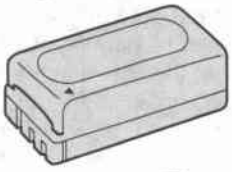


2

❶



❷



❸

Using Your Battery Packs Effectively

TO USE THE BATTERY PACK EFFECTIVELY, KEEP THE FOLLOWING IN MIND:

1. Charge a brand-new battery before using.
2. Discharge the battery for storage.
3. Recharge the battery only after discharging completely.

Read these instructions thoroughly before using the battery pack. The battery pack is a rechargeable nickel cadmium (NiCd) battery. It can be used repeatedly after recharging. The battery pack has not been charged before shipping.

CHARGE THE BATTERY BEFORE USING:

- Use only the battery charger(s) specified in this manual.
- Refer to the battery charger instructions for charging procedure and charging time.
- To maximize the capacity of the battery pack, when using a brand-new battery pack for the first time, charge it once (charge lamp lights up), remove it and charge it once again.
- The battery pack remains warm immediately after charging or use. Though being warm has no adverse effect on the performance of the battery pack, charge the battery pack only after it has cooled.

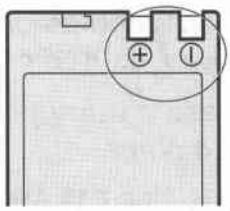
OBSERVE THE FOLLOWING:

- Carry and store the battery pack in its original box or a plastic bag. Do not let metal objects (keys, paper clips, etc.) touch the metal terminals [4] because it may cause a short circuit. This can be extremely dangerous since it may result in burns or other accidents.
- Do not expose the battery pack to fire. The battery pack might explode.
- Do not disassemble or alter the battery pack.
- Do not drop the battery pack or subject it to strong shocks.
- Do not get the battery pack wet.

TO CHARGE BATTERY PACKS EFFECTIVELY:

- Even a newly-charged battery pack naturally discharges in time. Charge it within a couple of days of when it is to be used.
- Charge the battery pack only after the power supply of the camcorder automatically turns off.
- Repeated recharging of a battery pack which is not fully discharged shortens the time that the battery pack can be used before it needs charging again.

[4]



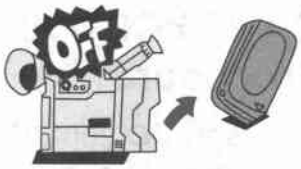
- When you haven't used the battery pack for several months, check the charge lamp 30 minutes after charging has begun. If the charge lamp does not blink for at least 30 minutes, it may mean that the time you will be able to use the battery has decreased.
- If the usage time has decreased try one of the following procedures to restore the battery pack:
  - Discharge the battery pack by attaching it to a battery video light, such as the VL-20, until the video light becomes dim.
  - Discharge the battery pack with a Canon product that has a discharge function, such as the MC-100, then recharge the battery pack.
  - Recharge the battery pack after the power supply has automatically turned off while you are using the camcorder. Repeated operation in this way is also effective.

COLD WEATHER USE:

Although the battery pack can be used at temperatures between 0°C and 40°C, it is recommended that the battery pack be used between 10°C and 30°C in order to take advantage of its full capacity.

IN ORDER TO USE THE BATTERY PACK EFFECTIVELY:

- When a battery pack is kept attached to the camcorder or video light, a very small amount of current flows into the equipment, resulting in an overdischarge. Since the battery pack cannot be fully recharged once it has overdischarged, always remove the battery pack from video equipment after use.
- Always keep the terminals [4] clean. If they get dirty, wipe them with a soft, dry cloth.
- Once the power of the camcorder is turned on, battery power is being consumed even when not recording (pause, etc.). Turn the power of the camcorder off when not shooting.
- When the battery charge is low "BATT" flashes in the viewfinder, but the battery can still operate the camcorder for several seconds. Always fully discharge the battery pack (the power supply cuts off automatically before storing).



Terminology

Overcharging

Charging battery pack after it has already been fully charged.

Overdischarging

Continuing to discharge battery pack after its voltage level has fallen below a specified level (5.0 V for the nickel-cadmium batteries used by Canon 8mm video camcorders).

AC Power/Car Battery

Camera can also be operated using AC power, or car battery. When operating from AC power, use CA-200 Compact Power Adapter and DC-200 DC Coupler.
When operating from a car battery, use CB-110 Car Battery Adapter and DC-200 DC Coupler.

CA-200 Compact Power Adapter (Using AC power) [5]

Plug into mains outlet.
Input voltage: 100-240 V AC, 50/60 Hz
- Use the DC-200 DC Coupler.
- Refer to the CA-200 instruction manual for further details.

CB-110 Car Battery Adapter (Option) (Using car battery) [6]

Plug into cigarette lighter socket. (For use only with 12-24 V DC, negative ground car battery.)
- Use with the DC-200 DC Coupler.
- Refer to the CB-110 instruction manual for further details.

CA-200/CB-110 Connection Procedure [7]

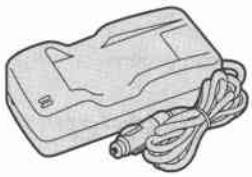
1. **Insert DC-200 DC Coupler into power source compartment.**
   - Insert and remove in the same way as the battery pack (see page 15).

2. **Connect DC-200 cable to CA-200 (or CB-110) adapter.**

   ❶ **CA-200 (CB-110)**
   ❷ **DC-200**

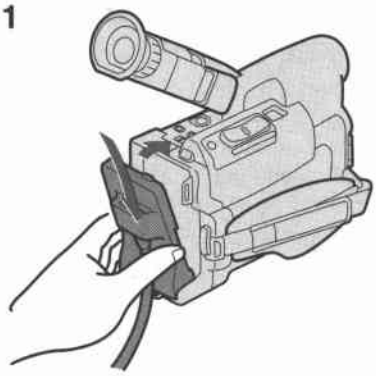
[5]

[6]



[7]

1



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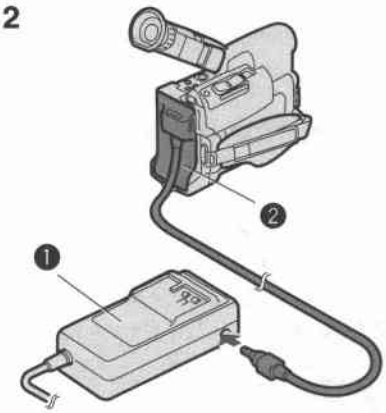
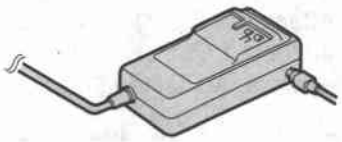


3. Insert AC plug of CA-200 into mains outlet. (Plug CB-110 into cigarette lighter socket).
- Use the CB-110 with the car engine idling.

4. Turn camera on.

Note:
- Using compact power adapter near a TV may cause TV to emit noise. If this occurs, move compact power adapter away from TV or aerial cable.

3



4

Camera Preparations

Attaching Straps 1

Attach the SS-200 Shoulder Strap by passing ends through the upper and lower strap attachment bars located on rear of camera. Adjust length and fasten.

❶ **SS-200 Shoulder Strap**

Attach the WS-20 Wrist Strap (option) by passing it through the lower strap attachment bar located on rear of camera. Adjust length to hang comfortably from wrist and fasten.

❷ **WS-20 Wrist Strap (option)**

Adjusting Grip Belt 2

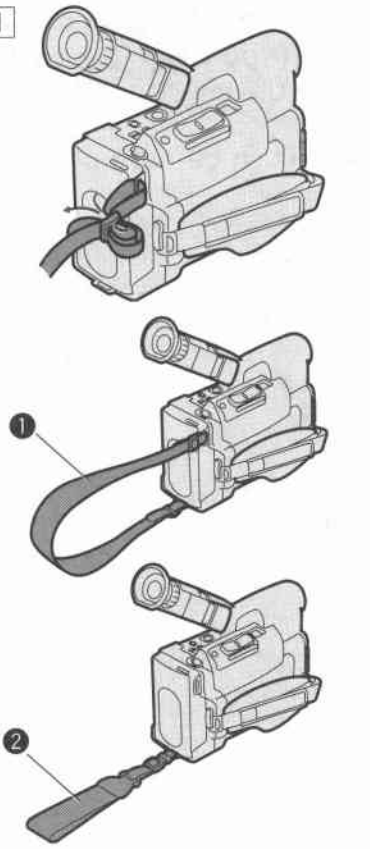
Adjust the length of the grip to provide a comfortable, secure grip.

Lens Cap 3

Pass the provided cord through the loop of the lens cap, as shown. Then pass the grip belt of the camera through the ring of the lens cap cord. Attach the lens cap. Before recording, remove the lens cap and use its clip to hook it onto the grip belt.

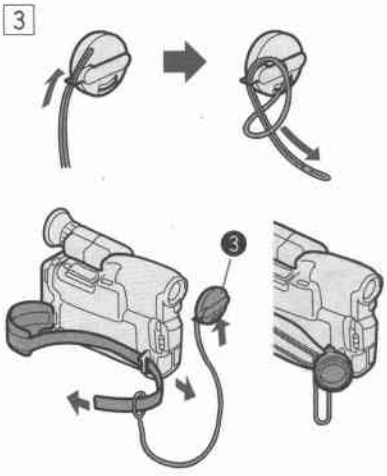
❸ **Lens Cap**

1



2

3



Adjusting Viewfinder Angle 4

Viewfinder rotates 90°. Choose desired angle for recording. When recording, pull out the eyepiece adapter from the finder and push it back in when recording is finished.

For Low-angle Shooting 5

When recording from a low angle, hold the camera as shown. Use thumb to operate START/STOP button.

Adjusting Diopter 6

Turn camera on and pull out the finder. Turn diopter adjustment ring until viewfinder displays are clearly visible.

❶ **Diopter Adjustment Ring**

Removing and Attaching Finder 7

When there is dust or lint on the viewfinder display, remove finder and clean it with a commercially available blower brush.

To remove:

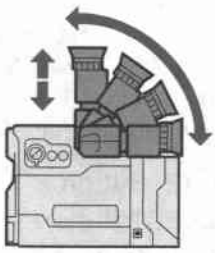
1. **Pull finder out from its base until it clicks.**
2. **Pressing viewfinder RELEASE switch, pull finder down in the direction of the arrow to slide it off.**

To attach:

1. **Align finder with base and press finder in until it clicks.**

❷ **Finder**
❸ **Viewfinder Display**
❹ **Viewfinder RELEASE Switch**

4



5

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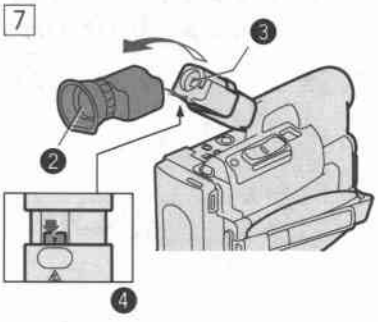
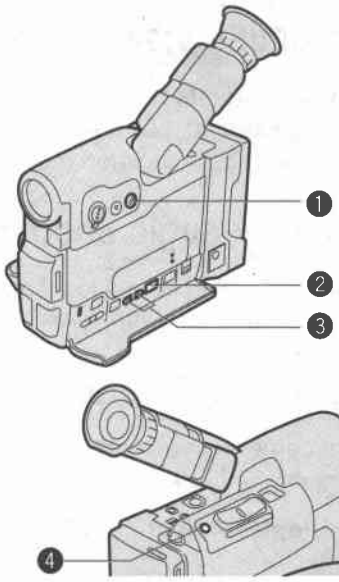


Setting Date and Time

Set date and time before using camera for the first time. Reset if camera has been stored for a long period and the date and time display has stopped or an incorrect date and time are displayed.
Example: Setting date to 8 March, 1993 and time to 2:35 pm.

❶ **DATE Button**
❷ **SELECT Button**
❸ **+/– Buttons**
❹ **OPERATE Button**



1. Turn camera on.
• CAMERA indicator (red) lights up.

2. Press and hold DATE button until year display flashes.

3. Press + and – buttons to scan year display.
• Press once to scan display one year at a time.
• Press and hold to scan display years quickly.

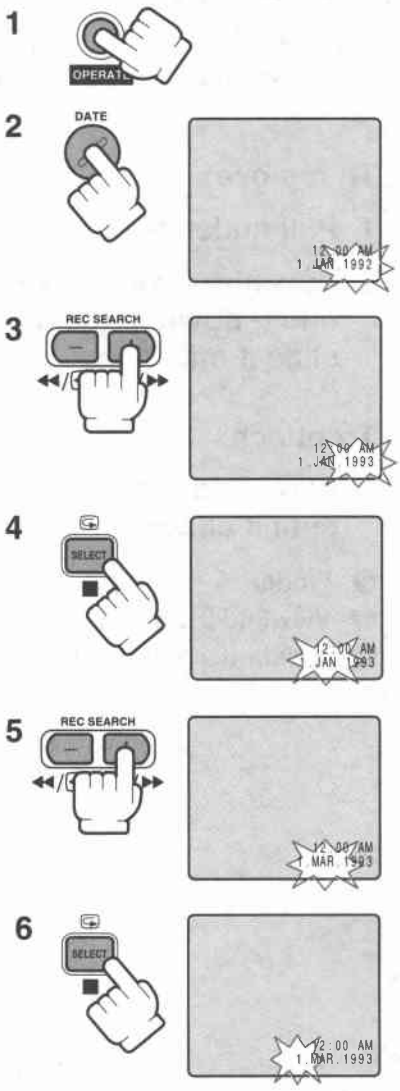
1992 ⇄ 1993 ⇄ ••• ⇄ 2009 ⇄ 2010 ⇄ 2011

4. Press SELECT button.
• Year is set and month display flashes.

5. Press + and – buttons to scan month display.

JAN ⇄ FEB ⇄ ••• ⇄ OCT ⇄ NOV ⇄ DEC

6. Press SELECT button.
• Month is set and day display flashes.



7. Press + and – buttons to scan day display.
- Camera knows the number of days in each month and which years are leap years.

1 ⇄ 2 ⇄ 3 ⇄ 4 ⇄ 5 ⇄ ••• ⇄ 27 ⇄ 28 ⇄ 29 ⇄ 30 ⇄ 31

8. Press SELECT button.
- Date is set and hour display flashes.

9. Press + and – buttons to scan hour display.
- Hour display rotates through 24 hours.

12 AM ⇄ 1 AM ⇄ ••• ⇄ 10 PM ⇄ 11 PM

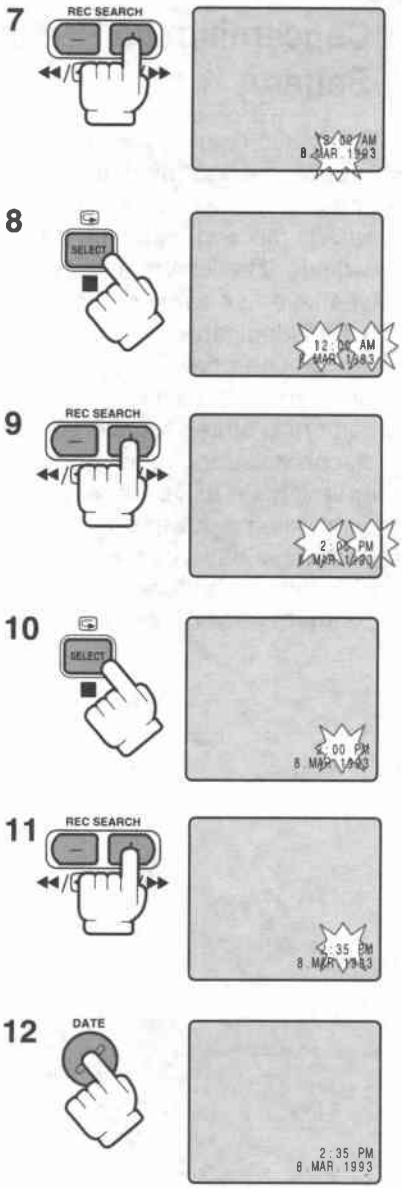
10. Press SELECT button.
- Hour is set and minute display flashes.

11. Press + and – buttons to scan minute display.
- To return to year display press SELECT button.

00 ⇄ 01 ⇄ 02 ⇄ ••• ⇄ 58 ⇄ 59

12. Press DATE button when correct minute is shown.
- Minute display stops flashing and auto date and time start functioning.
- Press DATE button to make display disappear from viewfinder.

Notes:
- To make a partial change to date or time setting, follow steps 1 and 2. Then press SELECT button to select setting to be changed.
  When the change has been made, press DATE button once more.
- To record date and time, see page 70.



Concerning the Rechargeable Lithium Battery

This video camera has a rechargeable lithium battery to supply power to the date and time memory and memory for other camera settings (see p. 57). Even when the battery pack is disconnected, the date and time function will keep on working. The lithium battery is automatically recharged whenever a power source is connected to the video camera. If the video camera is used regularly, the lithium battery will remain charged.

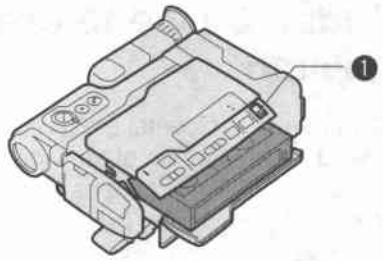
However, if the battery pack is removed and the video camera is stored for a long period, the lithium battery slowly discharges and the auto date/time function may stop operating. In this case, recharge the lithium battery by connecting a power source to the camera for approximately one whole day. Also reset the date and time (see p. 22).

- The lithium battery can be recharged even when the video camera power is not turned on.

Loading and Unloading Video Cassettes

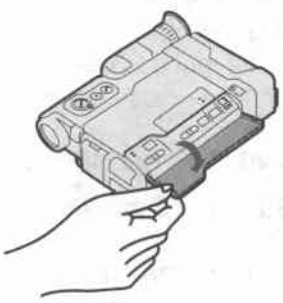
Use video cassette with the Hi8 mark(E5/P5 types) or the 8 mark (P5 type). Be sure to attach a power source to the camera before loading or unloading a video cassette. When a power source is attached the EJECT switch will work even when the camera is turned off.

❶ **EJECT Switch**

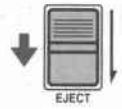


Loading/Unloading

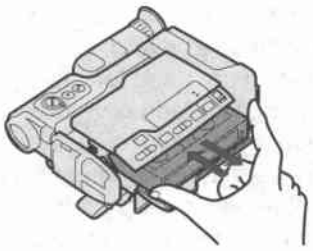
1. **When loading and unloading, place the camera as shown.**



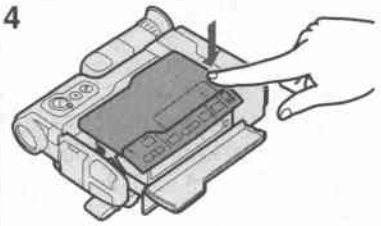
2. **With button cover open, EJECT switch is visible. Slide EJECT switch.**



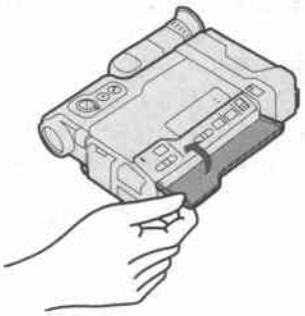
3. **Load/unload video cassette.**
   - When loading, gently insert video cassette with window facing out.
   - When unloading, remove video cassette by pulling straight out.



4. **Press PUSH mark on video cassette compartment.**
   - Video cassette compartment closes automatically.



5. **Close button cover until it clicks.**



Notes:
- When EJECT switch is slid, video cassette compartment opens automatically. Do not try to pull compartment open during this automatic stage, as it may cause a malfunction.
- If a cassette is removed and then replaced, the tape position will change slightly.
  Therefore, after reloading the cassette, use the record search function to locate the desired starting point (see page 36).

Video Cassette Erasure Prevention Switch

To prevent accidental erasure of recorded material, slide the switch at the bottom of the video cassette to the "SAVE" or "ERASE OFF" position, as shown.
Returning the switch to the "REC" or "ERASE ON" position enables recording again.
Refer to the video cassette instructions for further information on erasure prevention.

- "TAPE" flashes in viewfinder if you try to record on a video cassette that has been set for erasure prevention. Use another video cassette or set the switch to enable recording.

1: **Metal•HG/Hi8 MP/Hi8 ME**

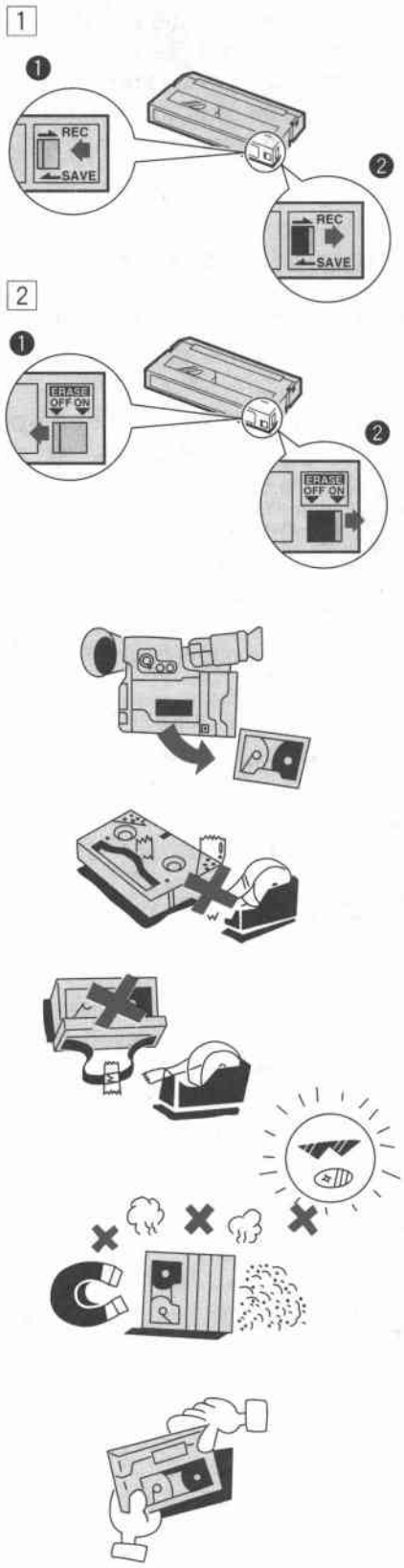
2: **Standard 8 mm MP**

❶ **In the "SAVE" or "ERASE OFF" position: Erasure Prevention (Window Red)**

❷ **In the "REC" or "ERASE ON" position: Recording Possible (Window Black)**

Notes:

- Do not leave the video cassette in the camera after use, especially when the camera will not be used for a long time. This may cause damage to the video cassette and heads.
- There are several holes in the back of the video cassette which are used for transferring information. Do not cover these with adhesive tape or other materials.
- Do not use video cassettes with damaged or spliced tape or ones that do not meet standards.
- Store video cassettes in their cases and avoid storing them under the following conditions:
  - In excessive heat or humidity
  - Near strong magnetic fields
  - In direct sunlight
  - In dusty or dirty places
  - Where mold may affect them
- Do not drop, knock, or subject the video cassette to excessive shocks. This may cause tape slack and lead to malfunction.
- Using a video cassette immediately after removing the wrapping will cause static electricity and may lead to malfunction. After unwrapping, touch the video cassette as shown.



What is Hi8?

Hi8 is the latest in the field of home video recording techniques developed to improve the recording and playback picture.
Using the 8mm video format as its base, Hi8 extends the picture resolution for images far clearer and sharper than ever before. Compatibility with the standard 8mm format is maintained. With this camera you can record and play back video cassettes with either the Hi8 or 8 mark.

Video cassettes

A special video cassette with the Hi8 mark is required for Hi8 video recording. The Hi8 Metal-E cassettes are the metal-evaporated type and the Hi8 Metal-P cassettes have metal-particle coating.

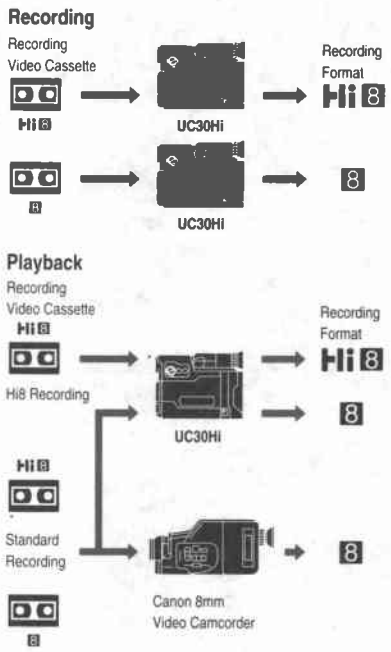
Compatibility with normal 8mm cassettes

The compatibility of Hi8 and normal 8mm is shown in the figure.

- Recording and playback in normal 8mm are possible on Hi8 units.
- Video cassettes recorded in Hi8 cannot be played back on normal 8mm units.
- The Hi8 format cannot be recorded on normal 8mm units.

Television

Use a television equipped with an S-video input terminal for Hi8 playback.

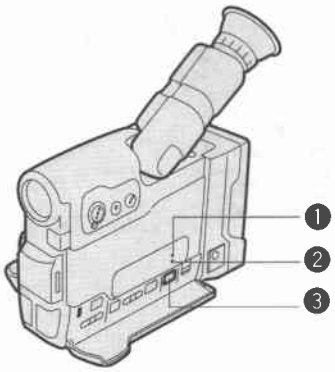


Basic Operations

CAMERA and PLAY Modes

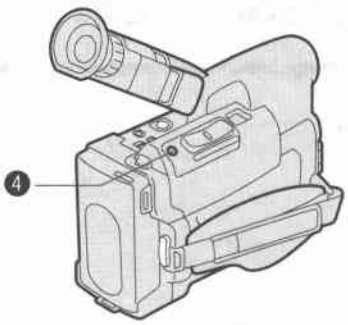
The camera has two basic modes of operation: CAMERA mode for recording and PLAY mode for playback.

❶ **CAMERA (red) Indicator**
❷ **PLAY (green) Indicator**
❸ **MODE SELECT Button**
❹ **OPERATE Button**



CAMERA Mode [1]

Make your recordings in CAMERA mode.
When camera is turned on, it automatically enters CAMERA mode and red CAMERA indicator lights up.



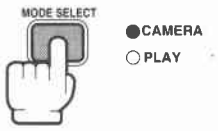
PLAY Mode [2]

Use PLAY mode to play back your recordings.
Press MODE SELECT button once to select PLAY mode. Red CAMERA indicator goes off and green PLAY indicator lights up. In PLAY mode, scene will not appear in the viewfinder and connected TV monitor screen will appear black. Also, date and time will appear in viewfinder and on TV monitor screen. To eliminate this, either press DATE button, change to CAMERA mode or press PLAY button.

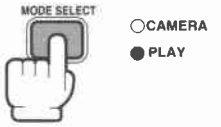
CAMERA and PLAY Indicators

CAMERA indicator (during CAMERA mode) or PLAY indicator (during PLAY mode) lights up during normal operation, and flashes to warn that there is internal condensation or a malfunction, or to indicate that battery pack needs to be recharged.

[1]



[2]



Mode Selection [3]

MODE SELECT button can be used to switch between CAMERA mode and PLAY mode.

The wireless controller can also be used to switch modes:
- If STOP ■ button is pressed during CAMERA mode, the camera switches automatically to PLAY mode.
- If REC ● button is pressed while the camera is in PLAY mode and the tape is either stopped or paused, the camera automatically switches to CAMERA mode.

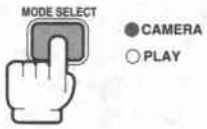
❶ REC ● Button
❷ STOP ■ Button

Dual-mode Buttons [4]

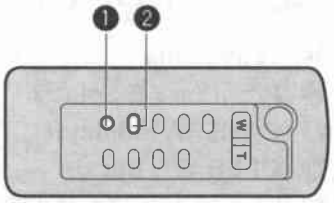
The four buttons located under the button cover have different functions in CAMERA and PLAY mode.
- Functions indicated in white are active during CAMERA mode.
- Functions indicated in blue are active during PLAY mode.

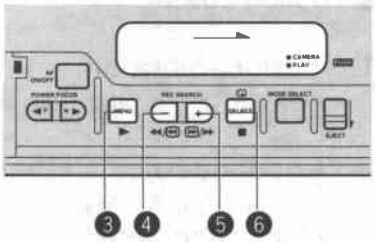
CAMERA mode (white)	PLAY mode (blue)
❸ MENU button	► (PLAY) button
❹ REC SEARCH (–) button	◄◄ / ⏪ (REW) button
❺ REC SEARCH (+) button	⏩ / ►► (FF) button
❻ SELECT button	■ (STOP) button

[3]



[4]





Camera Recording (CAMERA Mode)

Use 8mm video cassettes marked with the Hi8 mark (E5/P5 types) or the 8 mark (P5 type).
The camera automatically adjusts the iris, shutter speed and sensitivity level when you set the program AE selector to AUTO after turning on the camera.

Camera Recording

❶ **Tally Lamp**
❷ **Program AE Selector**
❸ **CAMERA Indicator**
❹ **OPERATE Button**
❺ **Start/stop (START/STOP) Button**
❻ **EJECT Switch**
❼ **Video Cassette Compartment**
❽ **Button Cover**

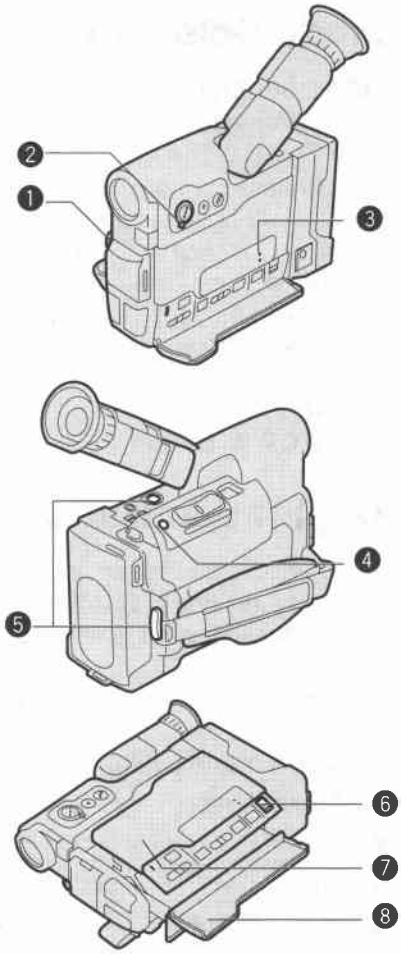
1. Turn camera on.

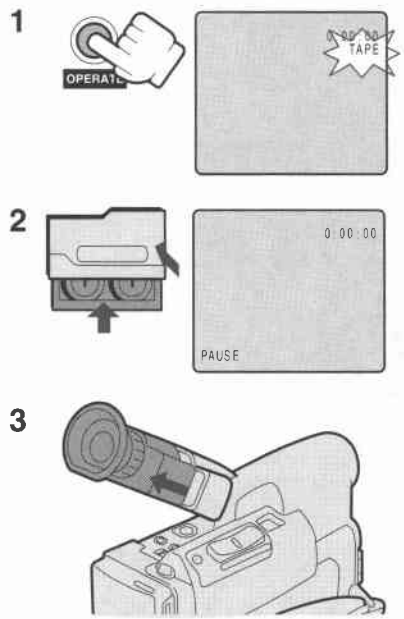
• CAMERA indicator (red) lights up.

2. Load video cassette in camera.

• Camera goes into record pause mode.
• For loading procedure, see page 25.

3. Pull out finder in the direction of the arrow.





4. Set the program AE selector to AUTO.

5. Press start/stop button.
- Recording starts.
- The tally lamp flashes rapidly and "REC" appears in viewfinder.
- To make more effective recordings, refer to the Advanced Operations section (pp. 50–76).

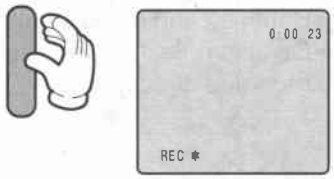
6. Press start/stop button to temporarily stop recording.
- "PAUSE" appears in viewfinder.
- Press the start/stop button again to resume recording.
- See "Record Review" (p. 37) to check your recording.

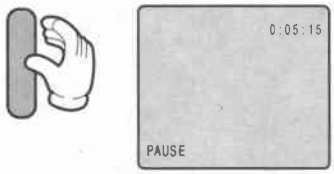
7. When recording is finished, unload video cassette and close video cassette compartment.
- For unloading procedure, see page 25.

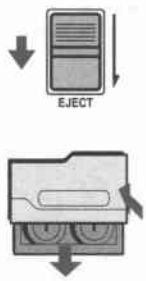
8. Turn camera off.
- CAMERA indicator (red) goes off.

Notes:
- Camera automatically turns off if record pause mode lasts more than approximately 5 minutes. This occurs to protect the video heads. To resume recording turn the camera on and press start/stop button.
- To avoid mistakes, check the viewfinder display for correct mode during shooting.
- Avoid recording near sources of strong electric or magnetic fields, such as TV towers, as this may cause noise in the picture or a camera malfunction.
- When recording in dark places, a bright light in the scene may cause a vertical bar (smear) to appear on the screen (p. 34).

4

5


6


7


8

Explanation:

Smear

A luminous bar appears vertically on the screen where excessively bright area in a scene was recorded.
Smear is caused by:

- Spotlights, directly recorded on a stage, for example.
- Burning candles on a cake recorded directly.
- Objects reflecting light, such as car bodies and traffic signs, recorded directly.

Tape Counter [1]

During recording, the tape counter in the viewfinder indicates how long you have recorded.

❶ **You have recorded for approximately 35 minutes and 40 seconds.**

- Tape counter is reset when a video cassette is loaded or when C. RESET button is pressed.
- Tape counter also operates during search and playback. This indicates how long the tape has been running.
- Tape counter time and actual recording duration may differ. It should only be used as a rough guide.

Recording Reminder [2]

When recording starts, camera displays 0 SEC through 10 SEC in viewfinder to indicate the first 10 seconds of recording. This function is designed to help you make sure your scenes are not too short, for easy viewing and editing. Try to record at least the full 10 seconds.

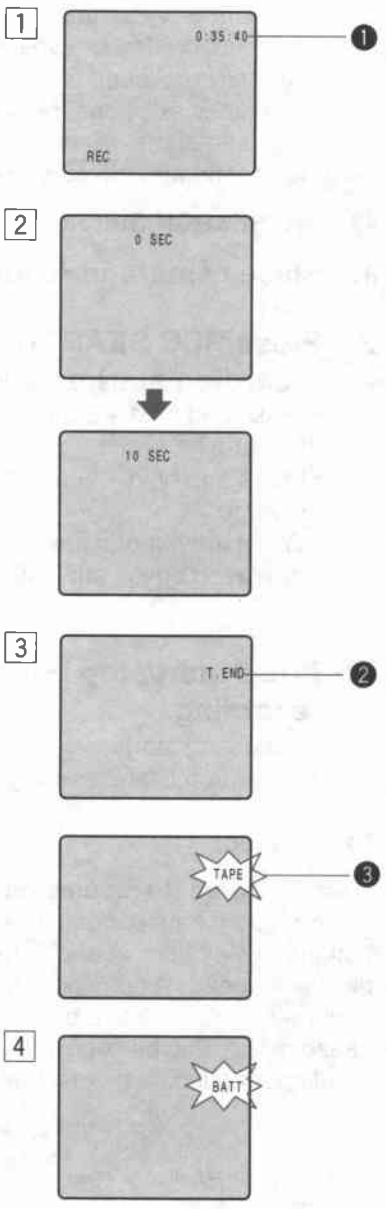
Video Cassette Warning [3]

"T. END" appears in the viewfinder when the tape is completely used up and recording stops. ❷
"TAPE" flashes in the viewfinder if the camera is turned on and a video cassette is not loaded or in CAMERA mode if the erasure prevention switch of loaded video cassette is set to save. ❸

Battery Pack Warning [4]

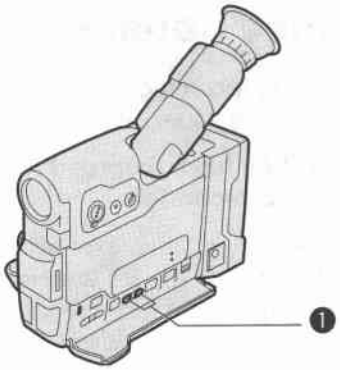
"BATT" flashes in the viewfinder when the battery pack charge is nearly exhausted.

- If the camera is turned on with an exhausted battery pack attached, it may turn off immediately, without a "BATT" warning.



Record Search (CAMERA Mode)

Use the record search function to locate the desired point to resume recording. Record search can also be used to eliminate noise between recorded scenes. Use this function when you make additional recordings on a previously used video cassette–there will be no noise between the previously recorded scene and the newly recorded scene.

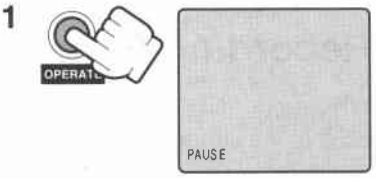


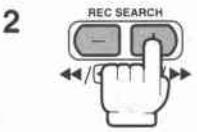
❶ **REC SEARCH Buttons**

1. Place camera in record pause mode.

2. Press REC SEARCH + or – buttons to locate recording start position.

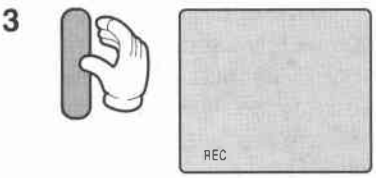
- Press and hold + button to play back recording forward.
- Press and hold – button to play back recording in reverse.
- When the buttons are released a still picture is displayed briefly and camera returns to record pause mode.





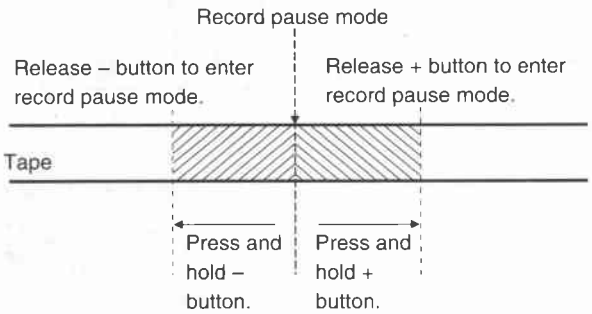
3. Press start/stop button to resume recording.

- Recording starts.
- Tally lamp flashes rapidly.



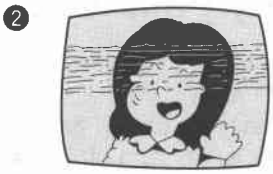
Explanation:

Record search (to resume recording)
During record pause mode, press REC SEARCH + or – buttons to play back scene normally, or in reverse, at normal playback speed. When you reach the point where you want to begin recording, release button. Camera returns to record pause mode. Playback picture can be monitored in viewfinder, to locate precise point to begin recording.


Record pause mode
Release – button to enter record pause mode.
Release + button to enter record pause mode.
Tape
Press and hold – button.
Press and hold + button.

Note:

- Noise bars and skew (picture distortion) may appear during record search.



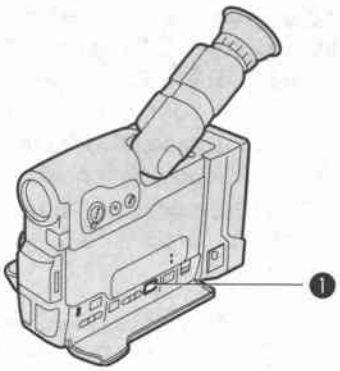
❷ **Noise bar**

❸ **Skew (distorted picture)**

Record Review (CAMERA Mode)

Press the ⏪ (record review) button during record pause mode to play back the last segment of the recorded scene (approximately three seconds) in the viewfinder.

❶ **⏪ (Record Review) Button**



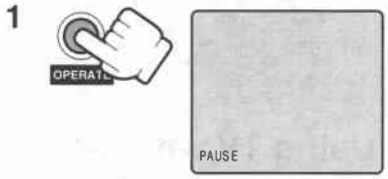
1. Place camera in record pause mode.

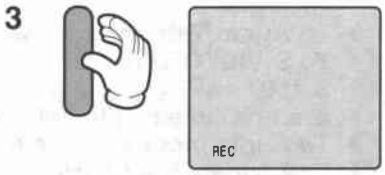
2. Press ⏪ (record review) button.

- Scene plays back in viewfinder.
- When record review is completed, camera returns to record pause mode.

3. Press start/stop button to resume recording.

- Recording will continue from the last recorded scene.

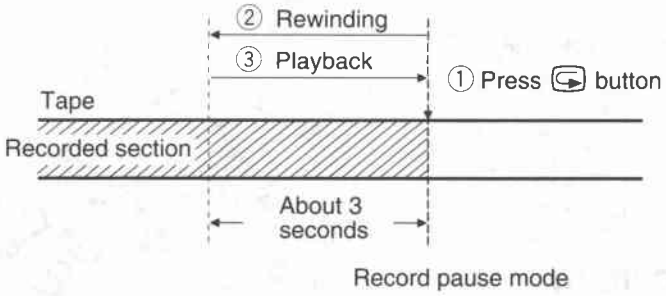




Explanation:

Record Review

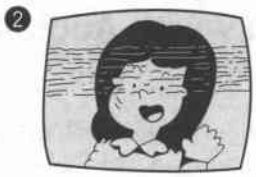
A function used in record pause mode to play back the last 3 seconds of recording in the order (① to ③) shown below. The camera returns to record pause mode after playback has ended.

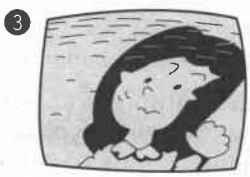


Note:

- Noise or skew (picture distortion) may appear on the screen during record review.

❷ **Noise bar**
❸ **Skew (distorted picture)**





Playback Connection (PLAY Mode)

To play back a recorded video cassette on a TV, use either the DC-200 DC Coupler and CA-200 Compact Power Adapter (or CB-110 Car Battery Adapter) or the BP-E77K Battery Pack as a power source. For details on how to connect the CA-200 (or CB-110) and DC-200 to the camera, see page 18.
The procedure for connecting the video camera to your TV varies depending on the type of TV. Follow the appropriate connection procedure described below and the following pages.

The connecting accessories included in the kit vary according to areas. Use the following chart to determine what your kit should contain:

	UK, EUROPE, etc.	ASIA, OCEANIA, etc.
S-150 S-Video Cable	1	1
RU-100 RF Unit	1	–
ST-150 Stereo Cable	1	1
C-150 AV Cable	–	1

Using TV with S-video Input Terminal

Stereo 1

Connect S-VIDEO/audio terminals of camera to S-video/audio terminals of TV using the S-150 S-video Cable and stereo cable.
• This procedure can also be used to connect camera to a VTR which has S-video input terminal.

❶ **To Audio Terminals (Ⓛ white=left; Ⓡ red=right)**
❷ **To S-VIDEO Terminal**
❸ **S-150**
❹ **Stereo Cable (white=left; red=right)**
❺ **To Audio Input Terminals**
❻ **To S-video Input Terminal**
❼ **TV: Set TV/VIDEO Selector to VIDEO**

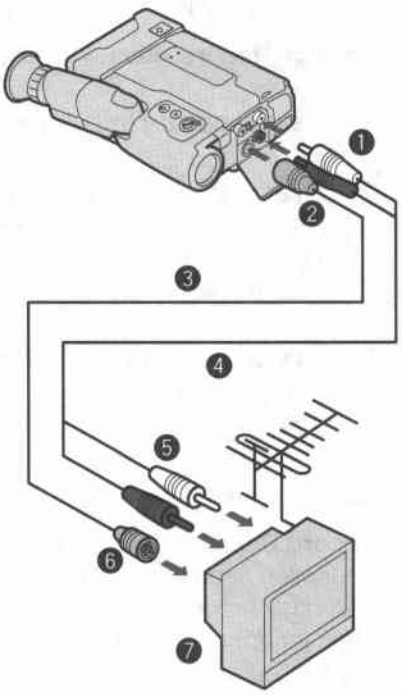
Using TV with Audio/Video Input Terminals Stereo 2

Connect audio/video terminals of camera to stereo audio/video input terminals of TV using a stereo cable and the C-150 AV Cable.
• This procedure can also be used to connect camera to a VTR which has audio/video input terminals.

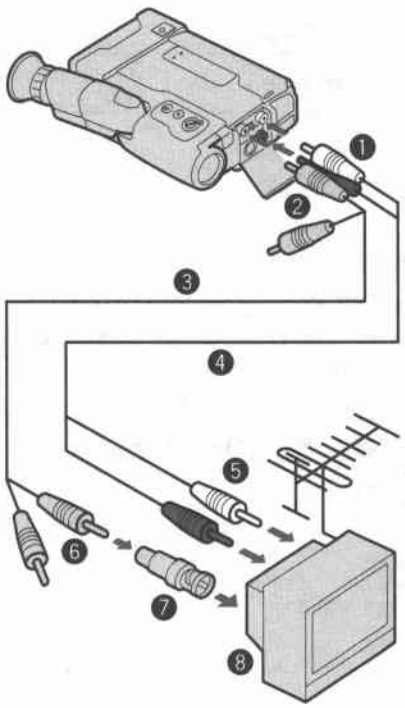
❶ **To Audio Terminals (Ⓛ white=left; Ⓡ red=right)**
❷ **To Video Terminal (yellow)**
❸ **C-150 [yellow=video; white (or black) plug is not used]**
❹ **Stereo Cable (white=left; red=right)**
❺ **To Stereo Audio Input Terminals**
❻ **To Video Input Terminal**
❼ **BNC Adapter***
❽ **TV: Set TV/VIDEO selector to VIDEO**

* If TV has a BNC-type video input terminal, attach a commercially available BNC adapter to C-150 AV Cable.

1



2



Monaural

Connect audio Ⓛ/video terminals of camera to audio/video terminals of TV using the C-150 AV Cable [white (or black)=audio; yellow=video].
• If connected only to Audio Ⓛ Terminal, Ⓛ+Ⓡ monaural signal is output.

Using TV with SCART Terminal

Stereo **S-video** 3

Connect audio/video terminals of camera to SCART terminal of TV using the optional PC-270SST S-stereo SCART Cable.

❶ **To Audio Terminals (Ⓛ white=left; Ⓡ red=right)**
❷ **To S-video Terminal**
❸ **PC-270SST S-stereo SCART Cable**
❹ **To SCART Terminal**

Stereo 4

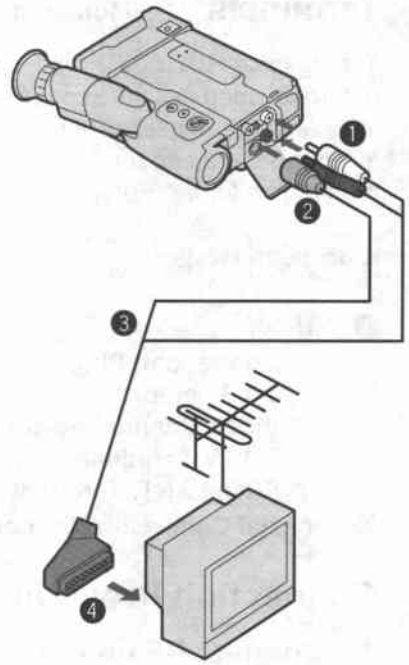
Connect audio/video terminals of camera to SCART terminal of TV using the PC-170ST Stereo SCART Cable.

❶ **To Audio Terminals (Ⓛ white=left; Ⓡ red=right)**
❷ **To Video Terminal (yellow)**
❸ **PC-170ST Stereo SCART Cable**
❹ **To SCART Terminal**

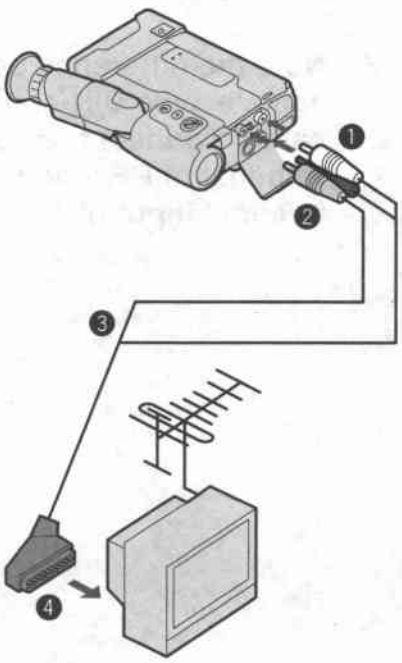
Monaural

Connect audio Ⓛ/video terminals of camera to SCART terminal of TV using the optional PC-150 SCART Cable.
• If connected only to Audio Ⓛ Terminal, Ⓛ+Ⓡ monaural signal is output.

3



4



Using TV without Audio/Video Input Terminals Monaural

The optional RU-100 RF Unit is required in order to view recorded video cassettes on a TV which does not have audio/video input terminals. There are two models of RU-100, one for Europe and one for Australia. The connection and setting procedures for the European and Australian models differ.

European Model 5

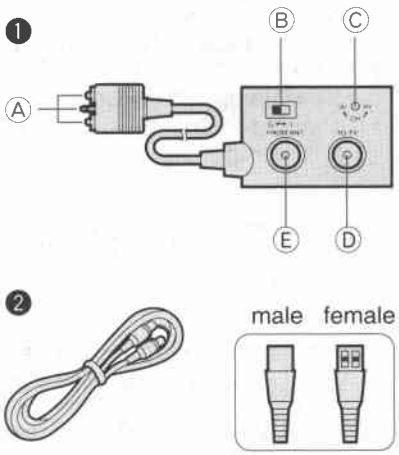
❶ RU-100
- **Ⓐ Connection Plug**
- **Ⓑ G/I Selector**
- **Ⓒ Video Channel Selector**
- **Ⓓ TO TV Terminal**
- **Ⓔ FROM ANT. Terminal**

❷ Coaxial Cable with DIN-connectors

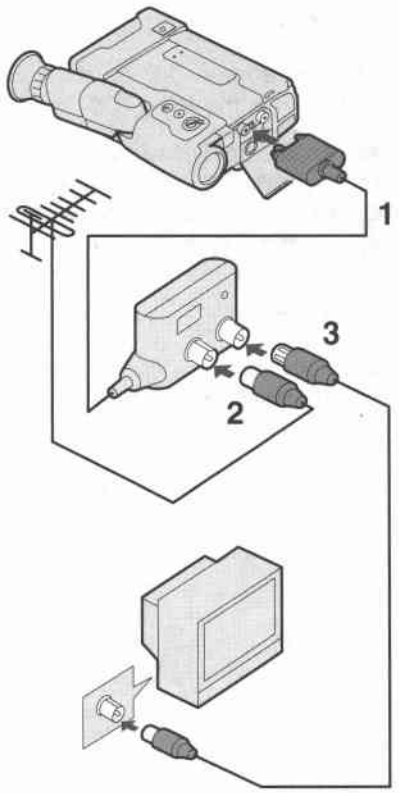
Connection Procedure 6

1. **Connect RF unit to camera.**
2. **Connect aerial cable to FROM ANT. terminal of RF unit.**
3. **Note the difference between 'male' and 'female' type DIN-connectors on coaxial cable. Connect female connector to TO TV terminal of RF unit. Connect male connector to aerial input of TV.**

5



6



Selecting Video Channel [7]

Video channel means the channel in your area which is not used by a broadcasting station (channels 30-39). If your TV does not have audio/video input terminals, your TV and the video channel selector of the RU-100 RF Unit must be set to the video channel in order to view playback.

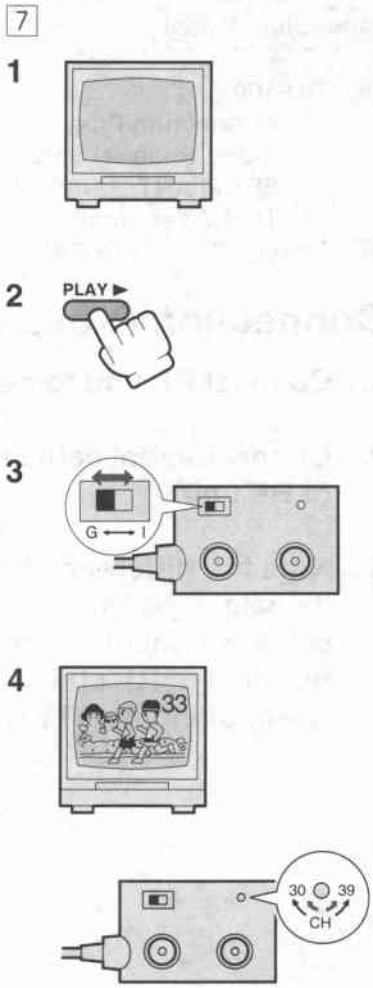
1. **Turn TV on.**

2. **Turn camera on and start playback (see p. 44).**

3. **Set RF unit's G/I selector using a flat-edge screwdriver.**
   G: Continental Europe
   I : England, South Africa, Hong Kong
   • If G/I selector is set improperly, picture will appear, but no sound will be heard.

4. **Set TV and video channel selector to video channel.**
   For example, if video channel in your area is channel 33, tune TV to channel 33, then use a flat-edge screwdriver to set video channel selector of RU-100 to CH 33, and adjust by turning until picture is clear.
   • The RU-100 RF Unit is shipped from the factory with the video channel selector set to channel 32.

[7]



To View a Regular TV Programme

The RU-100 RF Unit automatically selects the video camcorder signal whenever the video camcorder is connected to the TV through the RF unit and the video camcorder is turned on. To view a regular TV program, disconnect the video camcorder from the RF unit, or turn the video camcorder off.

Australian Model 8

❶ **RU-100**
- Ⓐ **Connection Plug**
- Ⓑ **Video Channel Selector**
- Ⓒ **FROM ANT. Terminal**
- Ⓓ **TO TV Terminal**

❷ **Coaxial Cable with DIN-Connectors**

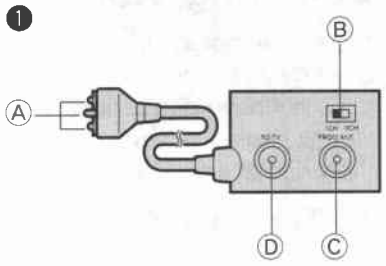
Connection Procedure 9

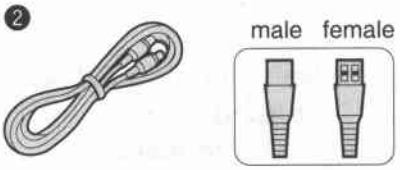
1. **Connect RF unit to camera.**

2. **Connect aerial cable to FROM ANT. terminal of RF unit.**

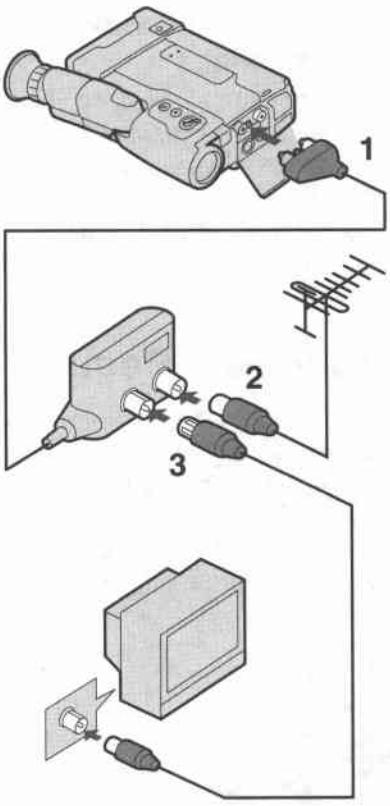
3. **Note the difference between 'male' and 'female' type DIN-connectors on coaxial cable. Connect female connector to TO TV terminal of RF unit. Connect male connector to aerial input of TV.**

8





9



Selecting Video Channel 10

Video channel means the channel in your area which is not used by a broadcasting station (Channel 0 or 1). If your TV does not have audio/video input terminals, your TV set and the video channel selector of the RU-100 RF Unit must be set to the video channel in order to view playback.

1. **Turn TV on.**

2. **Turn camera on and start playback (see p. 44).**

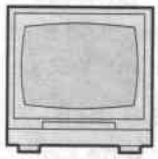
3. **Set TV and video channel selector to video channel.**
   For example, if video channel in your area is channel 0, set video channel selector of RU-100 to CH 0 (using a flat-edge screwdriver), then tune TV to channel 0.

To View a Regular TV Programme

The RU-100 RF Unit automatically selects the video camcorder signal whenever the video camcorder is connected to the TV through the RF unit and the video camcorder is turned on. To view a regular TV programme, disconnect the video camcorder from the RF unit, or turn the video camcorder off.

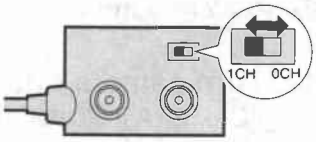
10

1



2

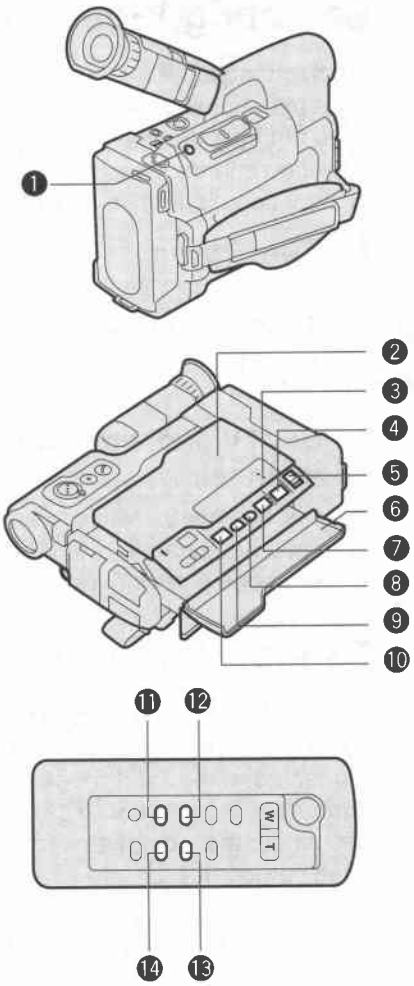
3



Playback Procedure (PLAY Mode)

Before playback, make sure that all connection procedures are completed (pp. 38–43)
Playback is controlled by pressing the buttons on the camera or by using the wireless controller.

❶ **OPERATE Button**
❷ **Video Cassette Compartment**
❸ **PLAY Indicator**
❹ **MODE SELECT Button**
❺ **EJECT Switch**
❻ **Button Cover**
❼ **■ (Stop) Button**
❽ **⏩ / ▶▶ (Fast Forward) Button**
❾ **◀◀ / ⏪ (Rewind) Button**
❿ **▶ (Play) Button**
⓫ **STOP ■ Button**
⓬ **REW ⏪ Button**
⓭ **FF ⏩ Button**
⓮ **PLAY ▶ Button**

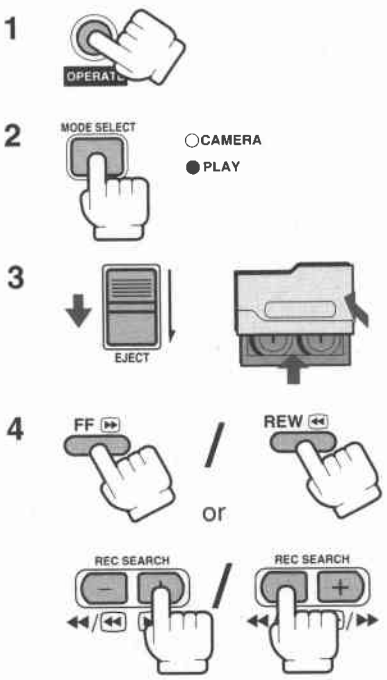


1. Turn camera on.
- CAMERA indicator (red) lights up.

2. Press MODE SELECT button to select PLAY mode.
- You must complete this step to begin playback.
- CAMERA indicator goes off, PLAY indicator (green) lights up and the connected TV monitor appears black and time and date are automatically displayed.

3. Load video cassette in camera.
- For loading procedure, see page 25.

4. Locate playback starting point.
- Use FF ⏩ (Fast Forward) or REW ⏪ (Rewind) buttons to locate starting point or use fast forward/ rewind playback or high-speed search (see p. 46).



5. **Press ► (Play) button to start playback.**
   • You can monitor playback in viewfinder.

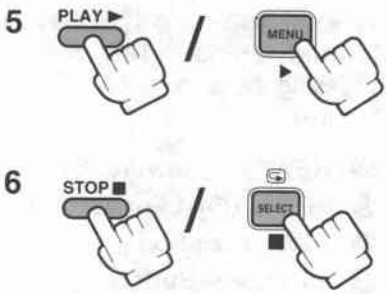
6. **Press ■ (Stop) button to end playback.**

Explanation:

High-Frequency Feedback

High-frequency feedback is a high-pitched squeal that occurs when the sound from the TV speaker is picked up by camera microphone.

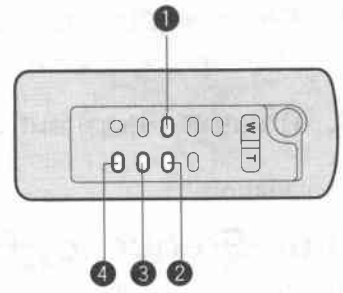
- During CAMERA mode, high-frequency feedback may occur if camera microphone is too close to TV speaker. To prevent feedback, turn down TV volume when camera is connected, and keep microphone pointed away from TV speakers.
- Feedback will not occur when PLAY mode is selected.

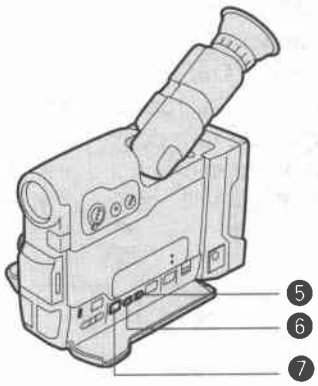


Special Playback Methods (PLAY Mode)

In addition to normal playback, the camera also has fast forward, rewind and still playback. Playback is controlled by pressing the buttons on the camera or by using the wireless controller.

❶ **REW ◄◄ (Rewind) Button**
❷ **FF ►► (Fast Forward) Button**
❸ **PLAY ► Button**
❹ **STILL ►II Button**
❺ **►► / ►► (Fast Forward) Button**
❻ **◄◄ / ◄◄ (Rewind) Button**
❼ **► (Play) Button**





Fast Forward Playback [1]

Press and hold ►► / ►► (Fast Forward) button during normal playback to view scenes at about 7 times (SP mode) normal speed.
• Release button to resume normal playback.

Rewind Playback [2]

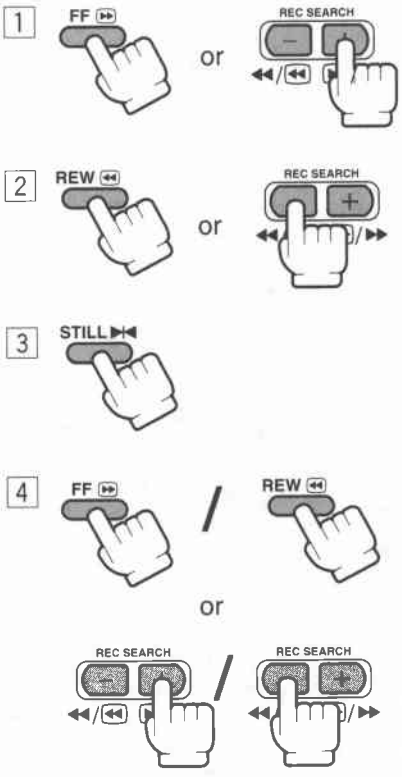
Press and hold ◄◄ / ◄◄ (Rewind) button during playback to view scenes in reverse at 5 times (SP mode) normal speed.
• Release button to resume normal playback.

Still Playback [3]

Press STILL ►II button on wireless controller during playback to pause playback. Press STILL ►II button once again, or press PLAY ► button, to resume normal playback.
• Camera's start/stop button can also be used to pause playback.

High-Speed Search [4]

The high-speed search function plays back recorded scenes at about 11 times (SP mode) and 22 times (LP mode) the normal speed.
• Press ►► / ►► (Fast Forward) button once, in fast forward mode, for high-speed search in the forward direction.
Press ►► / ►► (Fast Forward) button again to return to fast forward mode.
• Press ◄◄ / ◄◄ (Rewind) button once, in rewind mode, for high-speed search in reverse.
Press ◄◄ / ◄◄ (Rewind) button again to return to rewind mode.



Notes:

- Several noise bars appear during special playback.

❶ During fast forward and rewind playback modes

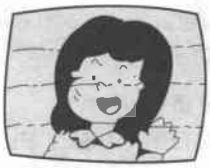
❷ During still playback

- Audio portion of tape cannot be heard during special playback.
- Picture flickers during still playback.
- The camera automatically goes into stop mode after about 5 minutes of continuous still playback.
- When fast action scenes are shown in still playback, the picture may blur.
- Certain TVs may show the special playback picture in black and white, or picture may roll or divide.
- Notes about special playback of tapes recorded in SP:

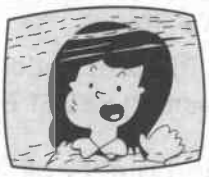
(1) The still playback picture will contain much more noise than for a tape recorded in LP.

(2) During fast forward or rewind playback, noise bar will be much wider than for a tape recorded in LP.

❶



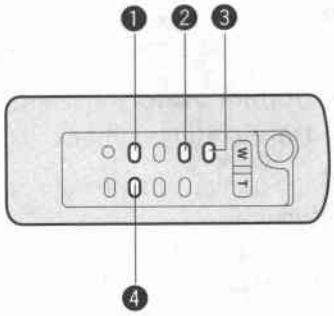
❷

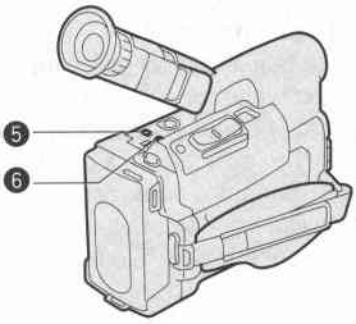


Tape Return (PLAY Mode)

The tape return function allows you to quickly return to a desired scene.

❶ **STOP ■ Button**
❷ **COUNTER RESET Button**
❸ **TAPE RETURN Button**
❹ **PLAY ► Button**
❺ **TAPE RETURN Button**
❻ **C. (Counter) RESET Button**



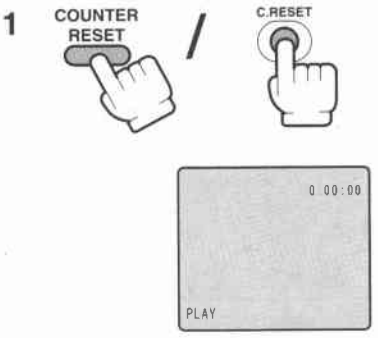


1. **During playback, press the C. RESET (COUNTER RESET) button if you locate a scene you wish to watch again later.**
   • The tape counter is reset to "0:00:00".

2. **Press STOP ■ button when playback finishes.**

3. **Press TAPE RETURN button.**
   • The tape rewinds and stops automatically when tape counter nears "0:00:00".

4. **Press PLAY ► button.**
   • Playback starts at the point where you pressed the C. RESET button.



Notes:
• Press STOP ■ button to cancel tape return.
• When tape counter reading is near "0:00:00", TAPE RETURN button does not operate.

Advanced Operations

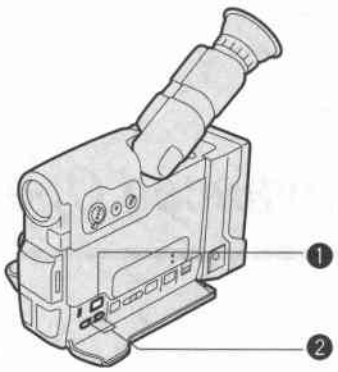
Focusing (CAMERA Mode)

The camera has two focus modes: autofocus and power focus. Each time the AF ON/OFF button is pressed, the selected mode changes as shown below.

Camera ON → Autofocus → Power Focus

❶ AF ON/OFF Button
❷ POWER FOCUS Buttons (F/N)

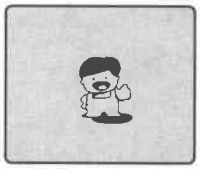
When the camera is turned on, autofocus is automatically selected.



Autofocus [1]

In autofocus mode, the subject(s) in the centre of viewfinder will be in sharp focus.
The camera is equipped with an internal-focus lens which provides an autofocus range from infinity to very close.
Subjects can be approached to a distance of
• 1 cm with the maximum wide-angle end.
• 70 cm with the maximum telephoto end for recording.

[1]



Changing the focus set by autofocus [2]

In autofocus mode the camera focuses on the subjects with the highest contrast. If several high contrast subjects are in the centre of the viewfinder, only one of them may be in focus. To focus on other subjects, press the POWER FOCUS buttons and adjust the focus. This may also be done in cases where the subject is a continuous line and you wish to focus on a particular spot.
After the autofocus has been set to focus automatically, press the F or N POWER FOCUS buttons to bring a desired subject into sharp focus.
• Press F button to focus on far subjects.
• Press N button to focus on near subjects.
During this time, autofocus does not operate temporarily but resumes operation when the POWER FOCUS buttons are released.

[2]

Subjects Not Suitable for Autofocus [3]

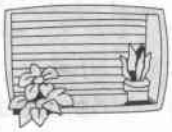
Autofocus may not work well in the following instances, and power focus will probably give you better results:

❶ Shiny subjects or subjects that reflect light
❷ Horizontally striped subjects
❸ More than one subject in viewfinder/different distances
❹ Rapidly moving subjects
❺ Slanted subjects
❻ Subjects with little or no contrast (a white wall, for example)
❼ Subjects behind glass (windows with water or dirt on them)
❽ Dark subjects
❾ Night scenes

[3]

❶

❷

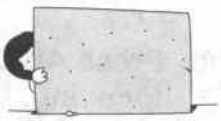


❸

❹

❺

❻



❼

❽

❾

Power Focus [4]

Power focus is used for recording subjects not suitable for autofocus.

❶ **AF ON/OFF Button**
❷ **POWER FOCUS Buttons**
❸ **Power Zoom Buttons**

1. Press power zoom buttons to obtain the desired picture angle.

- Using the zoom after having used the power focus may cause the picture to become out of focus. Therefore, zoom first, then focus.
- For zooming, see page 53.

2. Press AF ON/OFF button.

- "AF OFF" appears in viewfinder.
- Subjects which were in focus remain locked in focus.

3. Use POWER FOCUS buttons to focus on subject to be recorded.

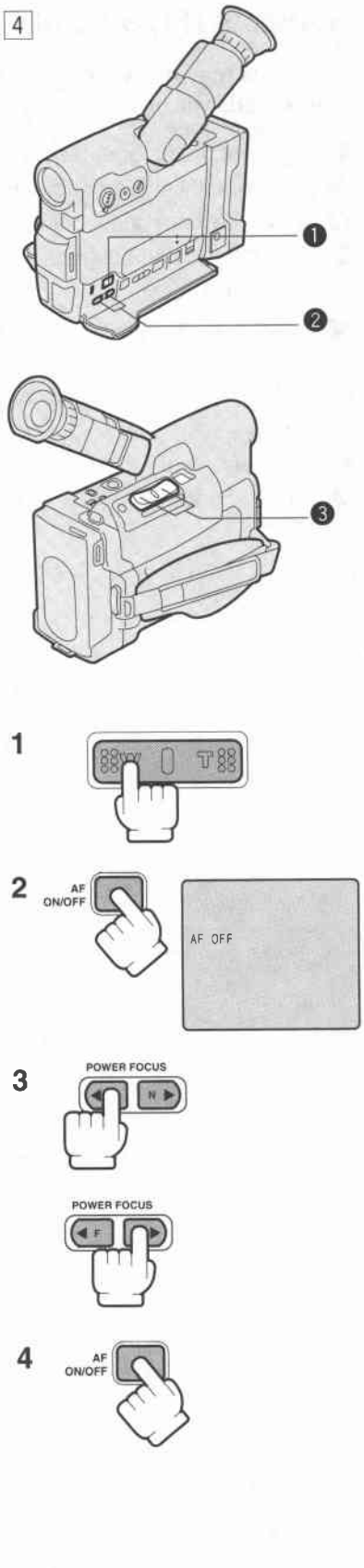
- Press F button to focus on far subjects.
- Press N button to focus on near subjects.
- Press POWER FOCUS button for short periods (less than one second) to obtain fine focus. The focus will change slowly.
  To focus rapidly, press and hold POWER FOCUS button (for at least one second). The focus change speed will increase.

4. Press AF ON/OFF button to cancel power focusing.

- "AF OFF" disappears from viewfinder and autofocus resumes.

Note:

- Turning the power off or changing to PLAY mode will cause the camera to revert automatically to autofocus.



Zooming (CAMERA Mode)

The camera is equipped with an 8× zoom lens. The zoom function enables the picture angle to be changed freely from wide angle to telephoto.

Power Zoom 1

❶ Power Zoom Buttons

- Press W to gradually zoom out to wide angle.
- Press T to gradually zoom in to telephoto.

❷ Zoom in

❸ Zoom out

2-Speed Zooming Control Feature

This camera is equipped with 2-speed zooming control.
Press T or W button halfway to zoom slowly.
Press T or W button all the way down to zoom quickly.

Wireless Zoom 2

❹ ZOOM Buttons

For remote control of the zoom function, use the ZOOM buttons on the wireless controller.

- Press W to gradually zoom out to wide angle.
- Press T to gradually zoom in to telephoto.

Hints:

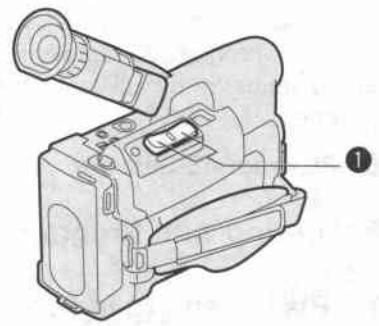
- It is recommended that the camera be mounted on a tripod for telephoto recording since any hand movements are amplified.
- Overuse of zooming may make recordings seem too busy. Selective use of zooming is more effective.

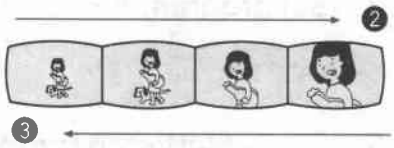
Zooming and Minimum Shooting Distance 3

The internal-focus lens causes the minimum shooting distance (how close the camera can be brought to a subject) to change with the zoom position.

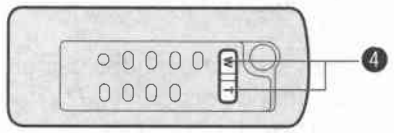
- With the widest angle, shooting is possible at about 1 cm.
- With the greatest telephoto zoom the minimum distance is about 70 cm.

1

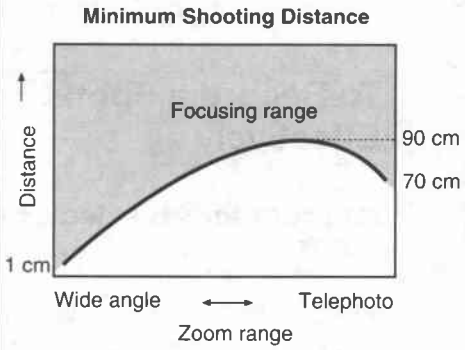




2

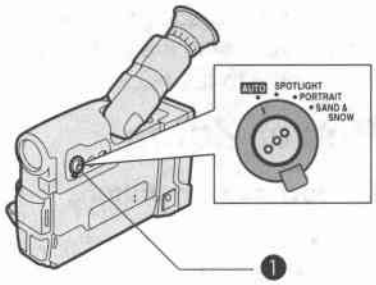


3



Program AE (CAMERA Mode)

The program AE selector puts advanced recording techniques at your fingertips with three different modes for best possible results in a variety of recording situations. When the program AE selector is in AUTO mode, the high-speed shutter and backlight compensation function can be operated.



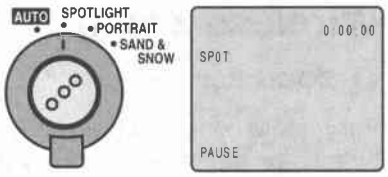
❶ **Program AE Selector**

Recording with Program AE Functions

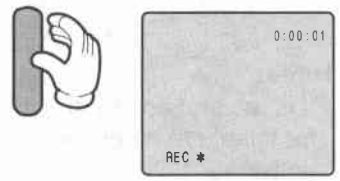
1 Place camera in record pause mode.

2 Set program AE selector to desired mode.

- Selected mode is displayed in viewfinder exept for AUTO mode.



3 Press start/stop button to start recording.



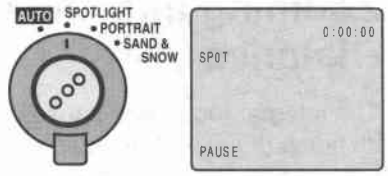
Notes:

- When recording is complete, set program AE selector to AUTO.
- When switching modes using the selector, image brightness may change suddenly. Do not switch modes while recording.
- When recording bright lights or reflections, a smear effect may occur.
- Flicker may occur with some sources of illumination.

To Record a Spotlit Scene More Effectively 1

Set program AE selector to SPOTLIGHT.

- "SPOT" is displayed in viewfinder.



In SPOTLIGHT mode, the iris is automatically adjusted for effective, glare-free recordings of scenes illuminated by spotlights or other concentrated light sources.
Use this mode when recording spotlit scenes such as on a stage.

To Make a Subject Stand out against the Background

2

Set program AE selector to PORTRAIT.

• "PORTRAIT" is displayed in viewfinder.

In PORTRAIT mode, the shutter speed and iris are automatically adjusted so that the subject stands out amid a softened foreground and background. Since a large iris is selected, the in-focus area becomes shallower.
Use this mode outdoors to make the subject stand out.

Hints:

- This softened effect is strongest when the zoom position is between middle range and telephoto end. Conversely, it becomes weaker as the zoom is shifted from middle range to the wide-angle end.
- The in-focus area becomes shallower in this mode. Use manual focus for better accuracy.

To Record Bright Scenes More Effectively (Beach or Snowy Location)

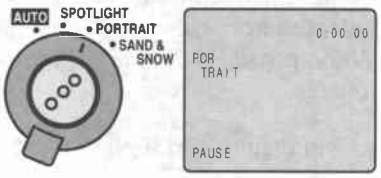
3

Set program AE selector to SAND & SNOW.

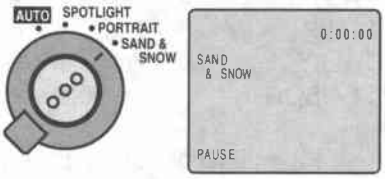
• "SAND & SNOW" is displayed in viewfinder.

In SAND & SNOW mode, the shutter speed and iris are automatically adjusted for clear recordings with no underexposure of the subject due to an excessively bright background such as a summer beach or a snowy ski resort.
Use this mode in locations with strong light reflection to obtain clear recordings and optimum exposure of the subject.

2



3



Menu System

The buttons on the surface of the camera handle only frequently used basic functions. Advanced functions are selected from menus which appear in the viewfinder.
When pressing the MENU button, 2 menus are displayed as follows.

┌→ No display → MENU 1 → MENU 2 ┐

The following functions can be controlled from the menus.

[MENU 1] 1

(Display)	(Function)
E. ERASE	Edit-erase (page 58)
SHUTTER	High-speed shutter (page 60)
WB LOCK	White balance lock (page 63)
B.T.S.	Blank tape search (page 65)

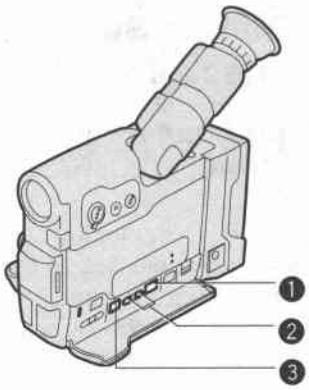
[MENU 2] 2

(Display)	(Function)
FADE T	Fade trigger (page 67)
SP/LP	Tape speed (page 69)
TALLY	Tally lamp off (page 71)
SENSOR	Remote sensor off (page 72)

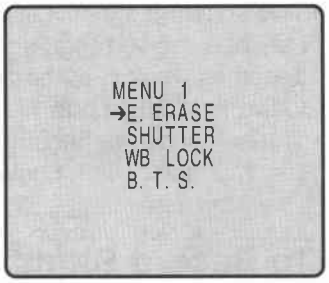
Use the MENU button to display the page containing the desired function. Then use the +/– buttons to align the arrow with the function.
• Press + button to lower the arrow.
• Press – button to raise the arrow.
Pressing the SELECT button allows a function setting to be changed or a function to be operated.

❶ **SELECT Button**
❷ **+/– Buttons**
❸ **MENU Button**

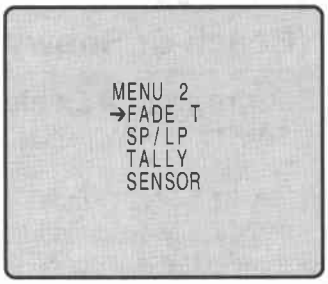
For further details, refer to the explanations of the various functions.



1



2

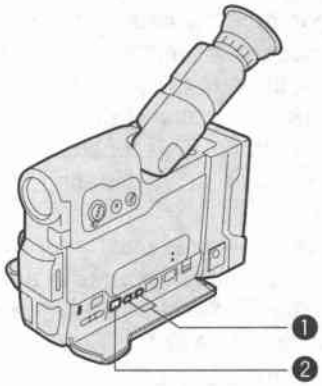


Initializing the Menu Displays

The following procedure allows all menu functions to be reset to their original settings.

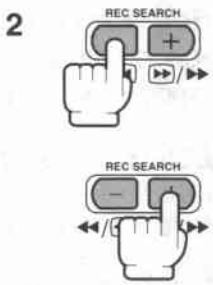
Date and time which are not items displayed on the menus, will not be affected by the following operations.

❶ **+/– Buttons**
❷ **MENU Button**



1. Press MENU button once.
- MENU 1 is displayed in viewfinder.

2. Press +/– buttons together for more than half a second.
- Each menu function will be reset to its original setting.



Refer to pages 58–72 to set the necessary menu functions.

Note:
- Even while the menu is displayed, if you press the start/stop button, the menu display will disappear but recording will begin.

Saving the Camera's Selected Settings

Due to the built-in lithium battery, the following settings are saved even when the power is turned off:
- Date and time
- Tape counter
- Tally off mode
- Sensor off mode
- Fade trigger mode

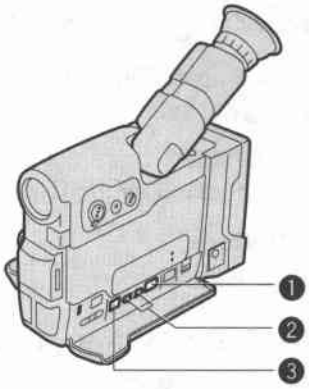
The following settings are cancelled if the camera is turned off or if the MODE SELECT button is pressed to switch the camera from CAMERA mode to PLAY mode.
Reset these modes before starting to record:
- Power focus mode
- High-speed shutter
- White balance lock
- Fade trigger standby
- BLC mode

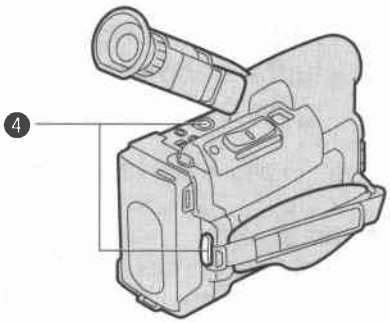
Edit-erase (CAMERA Mode) MENU 1

When an undesirable object or sound is recorded, such as someone walking across the picture or the sound of a car horn, the edit-erase function can be used to quickly return to the precise point where recording began, and record the scene again. This function only operates during the first 40 seconds or so of recording.

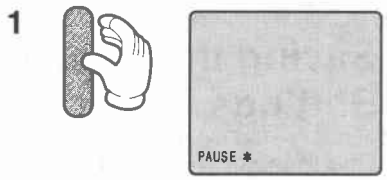
For about 40 seconds after starting to shoot a scene, an ✱ (asterisk) mark appears in the viewfinder next to the operating display. The edit-erase function can be used while this ✱ mark is displayed.

❶ **SELECT Button**
❷ **+/– Buttons**
❸ **MENU Button**
❹ **Start/stop (START/STOP) Button**

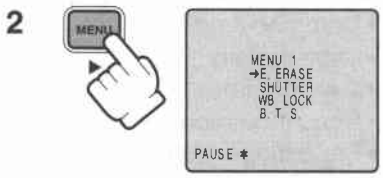




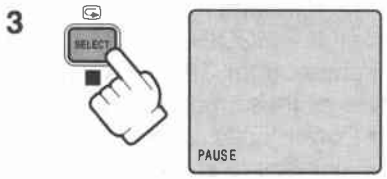
1. Check that ✱ (asterisk) is displayed in viewfinder, then press start/stop button to enter record pause mode.
- Asterisk appears also in record pause mode.



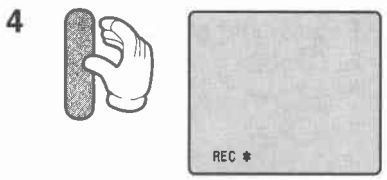
2. Press MENU button once.
- MENU 1 is displayed in viewfinder.
- Make sure arrow is aligned with E. ERASE.



3. Press SELECT button.
- Menu disappears from viewfinder and tape is rewound at triple speed.
- Camera is now in record pause mode at the start of scene you want to record over.
- The ✱ is no longer displayed.



4. Press start/stop button to resume recording.

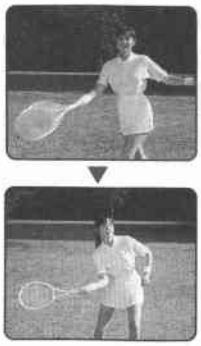


Note:

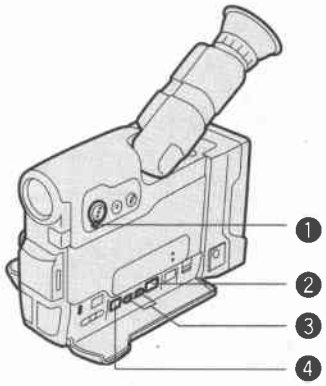
- The edit-erase function cannot be used if the OPERATE button is operated or record search is used less than 40 seconds after recording began (the ✱ [asterisk] disappears from the viewfinder).

High-Speed Shutter (CAMERA Mode) MENU 1

The high-speed shutter is useful for recording fast moving subjects clearly and for shooting sports. (When played back on a VTR with fine still and fine slow functions, little noise or blur will occur.)
The camera has 8 shutter speed settings: 1/50th, 1/120th, 1/250th, 1/500th, 1/1000th, 1/2000th, 1/4000th and 1/10000th of a second. Select the correct shutter speed to suit the speed and brightness of the subject.
The normal shutter speed is automatically selected to either 1/50th or 1/250th of a second.



❶ **Program AE Selector**
❷ **SELECT Button**
❸ **+/– Buttons**
❹ **MENU Button**



1. Set the program AE selector to AUTO.

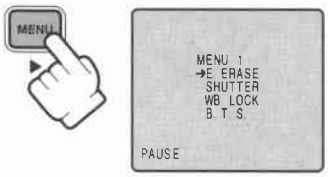
2. Point camera at subject and compose scene in viewfinder.

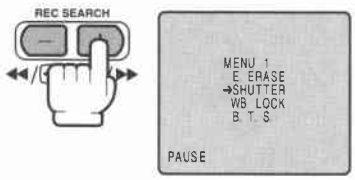
3. Press MENU button once.
• MENU 1 is displayed in viewfinder.

4. Use +/– buttons to align arrow with SHUTTER.

1

2

3


4


5. Press SELECT button to choose shutter speed.

- Each time SELECT button is pressed, shutter speed display in viewfinder changes as follows:

no display → 1/50 → 1/120 → 1/250 → 1/500 →
1/10000 ← 1/4000 ← 1/2000 ← 1/1000 ←

6. Press MENU button twice.

- Menu display disappears from viewfinder.

7. Press start/stop button to start recording.

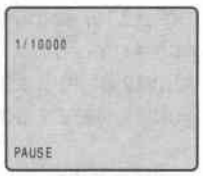
8. When recording is complete, follow steps 3-5 to return to normal shutter speed.

Notes:

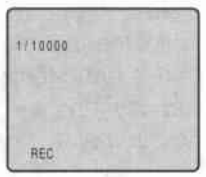
- High shutter speeds require more light. For best results use outdoors in bright places.
- Scenes shot with the high-speed shutter will appear somewhat jerky during normal playback.
- Scenes shot with the high-speed shutter will shudder during still playback.
- Camera will revert automatically to the normal shutter speed when the power is switched off or PLAY mode is selected.

5

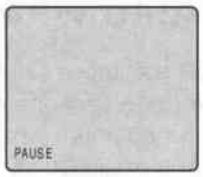
6



7



8



White Balance (CAMERA Mode)

What is White Balance?

The human eye can perceive a white object as white, regardless of the lighting conditions. With video cameras, however, the colour temperature of the light source may cause the colour of the recorded picture to be different from the actual colour. White balance is the adjustment made, when recording, to obtain natural whites and colours under a variety of light sources. The camera has two systems for white balance adjustments: auto and lock.

Explanation:
Colour temperature, measured in degrees Kelvin (K), indicates the relative redness or blueness of a light source and is not directly related to brightness. A light source with a red cast has a low colour temperature, whereas a bluish light source has a higher colour temperature.

Colour Temperature Chart

	Bluish Cast	10,000 K 9,000 K 8,000 K 7,000 K 6,000 K 5,000 K	• Blue sky • Screen on TV screen • Cloudy sky • Sunlight
Adjustable White Balance Range	White	4,000 K	• White fluorescent • 2 hours after sunrise or before sunset • 1 hour after sunrise or before sunset • Electric halogen light
	Reddish Cast	3,000 K 2,000 K 1,500 K	• 30 minutes after sunrise or before sunset • White electric light bulb • Sunrise, sunset • Candlelight

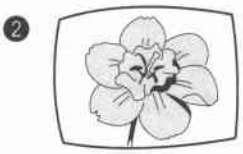
Auto White Balance

The camera's auto white balance system divides the screen into 48 sections and individually evaluates them to achieve the optimum white balance. A natural colour balance is automatically set for sunlight and indoor lighting conditions.

Subjects Not Suitable for Auto White Balance

Auto white balance may not operate well in the following circumstances and white balance lock will probably give better results:

1. Subjects with one dominant colour, such as sky, sea or forest.
2. Close-ups
3. Rapidly changing lighting conditions.
4. When recording under certain types of fluorescent or mercury vapour lights.



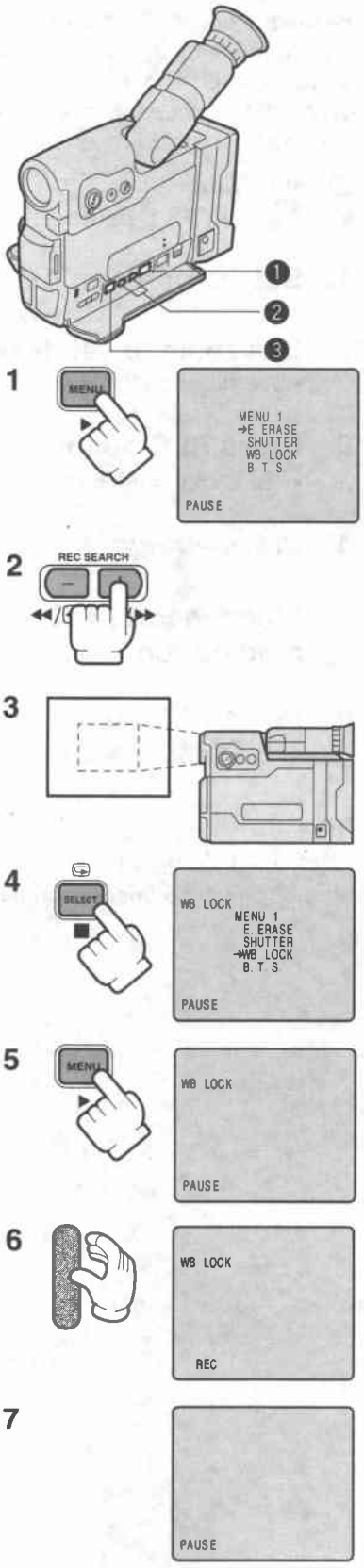
White Balance Lock MENU 1

Use the white balance lock when shooting subjects not suitable for auto white balance and in cases where a precise colour balance cannot be achieved with auto white balance.

❶ **SELECT Buttons**
❷ **+/– Buttons**
❸ **MENU Button**

1. **Press MENU button once.**
   • MENU 1 is displayed in viewfinder.
2. **Use +/– buttons to align arrow with WB LOCK.**
3. **Point camera lens at a white object (paper or cloth) so it completely fills viewfinder.**
   • Set zoom to telephoto end.
   • Focusing is not necessary.
4. **Press SELECT button.**
   • "WB LOCK" flashes in viewfinder, then remains lit.
5. **Press MENU button twice.**
   • Menu display disappears from viewfinder.
6. **Press start/stop button to start recording.**
7. **To cancel white balance lock, repeat steps 1, 2 and 4 and "WB LOCK" disappears from viewfinder.**
   • Auto white balance is reset.

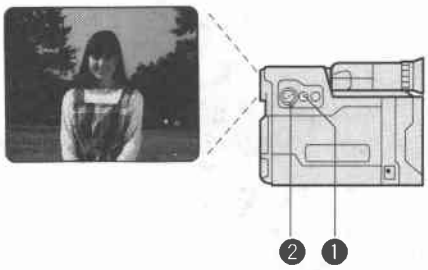
Notes:
• Switching off the power or selecting PLAY mode will cancel the white balance lock.
• Use the white balance lock in well lit places. If lighting conditions change, reset the white balance lock.



About Backlight (CAMERA Mode)

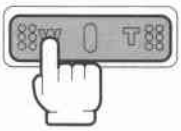
Backlight, caused for example by the sun or an open window behind the subject, will make the subject appear underexposed and lacking in detail.
When the subject appears underexposed in the viewfinder use the backlight compensation function.

❶ **BLC Button**
❷ **Program AE Selector**

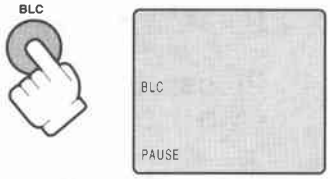


1. Set the program AE selector to AUTO.

2. Use zoom to set desired picture angle.
• See page 53 for zooming.



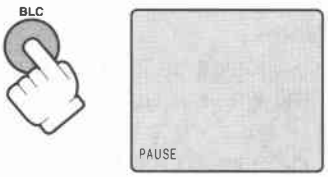
3. Press BLC button.
• "BLC" appears in viewfinder.



4. Press start/stop button to start recording.

5. When recording is complete, press start/stop button.

6. Press BLC button.
• "BLC" disappears from viewfinder.

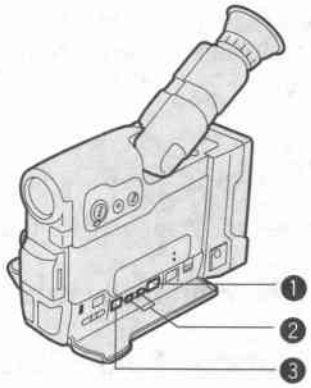


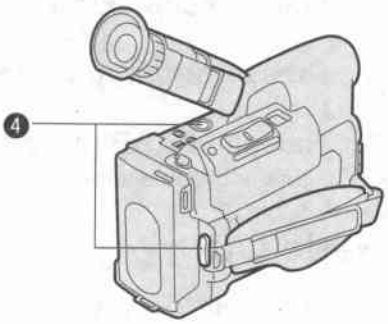
Note:
• Switching off the power or selecting PLAY mode will cancel the backlight compensation function.

Blank Tape Search (B.T.S.) (CAMERA Mode) MENU 1

The blank tape search function allows you to locate the end of the recorded section of a tape. This function is useful when you want to continue recording on a partially recorded tape.

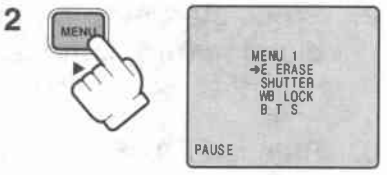
❶ **SELECT Button**
❷ **+/– Buttons**
❸ **MENU Button**
❹ **Start/stop (START/STOP) Button**



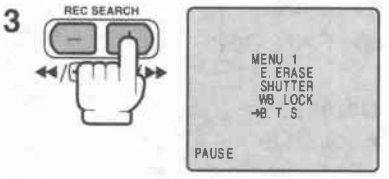


1. Load partially recorded video cassette.
• See page 25 for loading video cassettes.

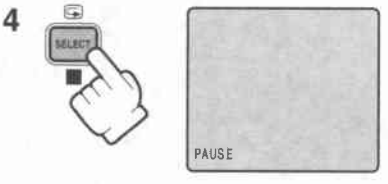
2. Press MENU button once.
• MENU 1 is displayed in viewfinder.



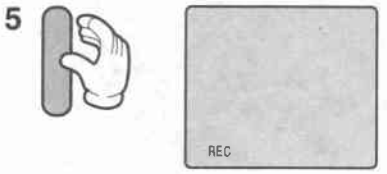
3. Use +/– buttons to align arrow with B.T.S.



4. Press SELECT button.
• The camera goes into high-speed search (page 46) while it finds the end of the recorded section of tape, then goes into record pause mode.



5. Press start/stop button to start recording.



Notes:
- Press the MENU button to stop the blank tape search.
- Even if the video cassette is loaded at a nonrecorded section, the end of the recorded section will still be located and camera will go into record pause mode.
- The blank tape search function detects blank sections of tape which are at least approximately 40 seconds in SP mode (1 minute and 20 seconds in LP mode) in length. If the tape has such 40 seconds blank sections in the middle of recorded sections, the camera will stop when it detects them. In this case, use fast forward playback (see p. 46) to move through the blank section and then use blank tape search again or record search (see p. 36).
- When using the blank tape search function, make sure that the erasure prevention switch on the video cassette is in the recording possible position (see p. 26).
- When the blank tape search function is used, the end of the previously recorded scene may be erased when recording is resumed.
- When the blank tape search function is operated on a video cassette with no blank sections, the camera enters high-speed search to the end of the video cassette and stops (T. END is displayed in the viewfinder).

Fade (CAMERA Mode)

The fade function allows you to make scenes gradually appear or disappear in smooth transition.

❶ **FADE Button**

Fade In [1]

Scene gradually appears from a blank screen.

1. **Place camera in record pause mode.**
2. **Press and hold FADE button which makes scene disappear from viewfinder.**
3. **Press start/stop button to start recording.**
4. **Release FADE button.**
   • Scene gradually fades in.

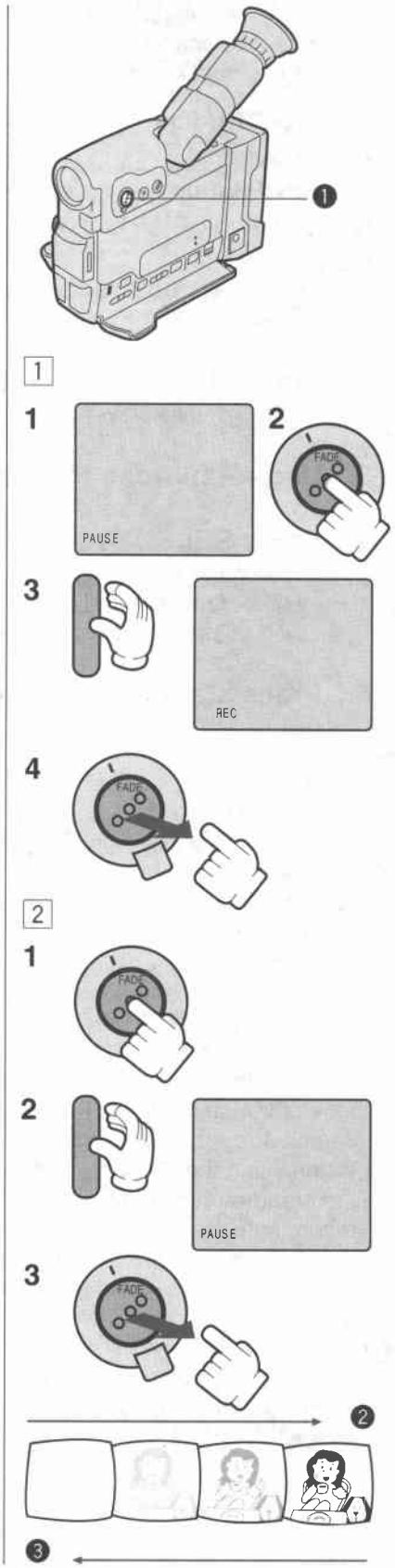
Fade Out [2]

Scene gradually disappears, fading to a blank screen.

1. **Press and hold FADE button during recording.**
   • Scene gradually fades out.
2. **Press start/stop button when scene has disappeared completely.**
   • Camera goes into record pause mode.
3. **Release FADE button.**

❷ **Fade In**
❸ **Fade Out**

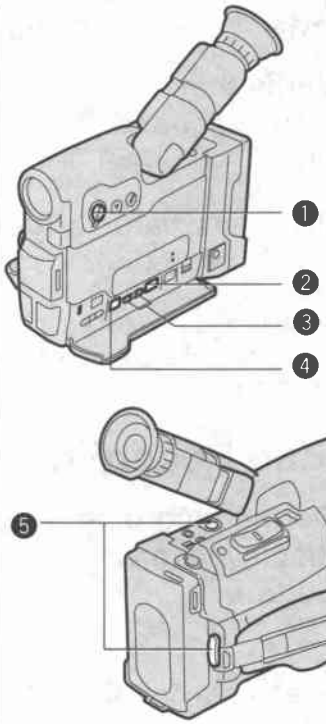
Notes:
• Sound fades along with the image.
• Date/time displays do not fade.



Fade Trigger (CAMERA Mode) MENU 2

The fade trigger lets you begin and end recording with smooth fades.

❶ **FADE Button**
❷ **SELECT Button**
❸ **+/– Buttons**
❹ **MENU Button**
❺ **Start/stop (START/STOP) Button**



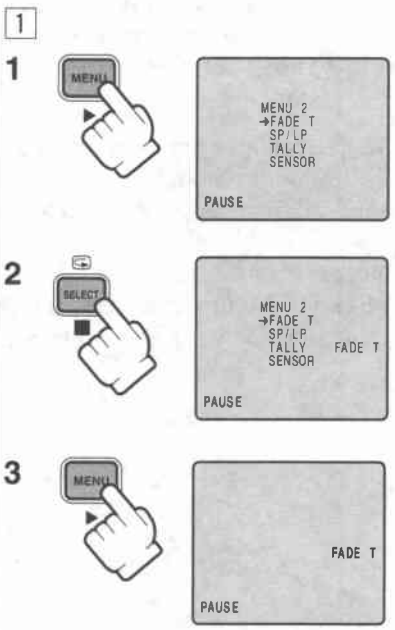
Selecting Fade Trigger Mode 1

1. Press MENU button twice.
- MENU 2 is displayed in viewfinder.
- Make sure the arrow is aligned with FADE T.

2. Press SELECT button.
- "FADE T" appears in viewfinder.

3. Press MENU button once.
- Menu disappears from viewfinder.

(continued on next page)



To Start Recording with Fade In 2

1. **Verify that "FADE T" is displayed in viewfinder and press FADE button.**
   - The "T" of "FADE T" flashes.

2. **Press start/stop button.**
   - The "T" of "FADE T" stops flashing and appears steadily.
   - The image in viewfinder disappears immediately. Recording begins about 0.2 seconds later and scene fades in.

To End Recording with Fade Out 3

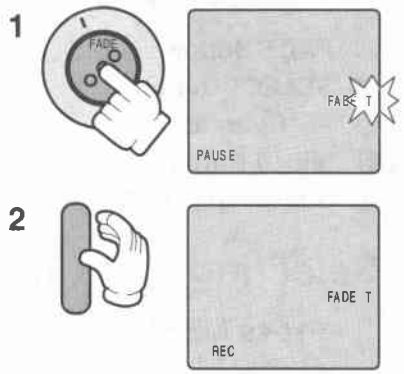
1. **During recording, verify that "FADE T" is displayed in viewfinder and press FADE button.**
   - The "T" of "FADE T" flashes.

2. **Press start/stop button to place camera in record pause mode.**
   - The image in viewfinder fades out. Camera goes into record pause mode about 5 seconds later.
   - The "T" of "FADE T" stops flashing and appears steadily.

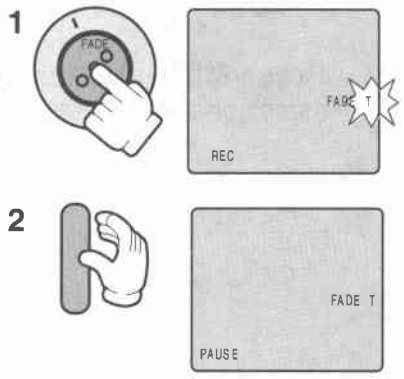
To cancel fade trigger mode, repeat steps 1 - 2 of "Selecting Fade Trigger Mode".
- "FADE T" disappears from viewfinder.

Note:
- Even if you turn the camera off or change to PLAY mode, this function will not be cancelled.

2



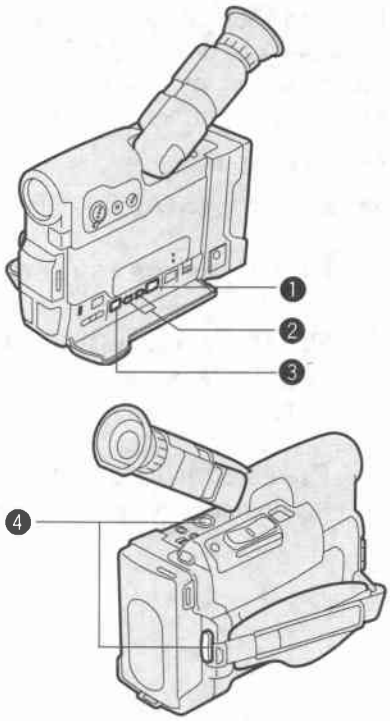
3



Selecting Tape Speed (CAMERA Mode) MENU 2

The camera has two recording speeds for normal or double recording time. For normal recording time and best picture quality, select SP (Standard Play). For double recording time, select LP (Long Play). During playback, the camera automatically selects the tape speed the video cassette tape was recorded in.

❶ **SELECT Button**
❷ **+/– Buttons**
❸ **MENU Button**
❹ **Start/stop (START/STOP) Button**



1. Press MENU button twice.
- MENU 2 is displayed in viewfinder.

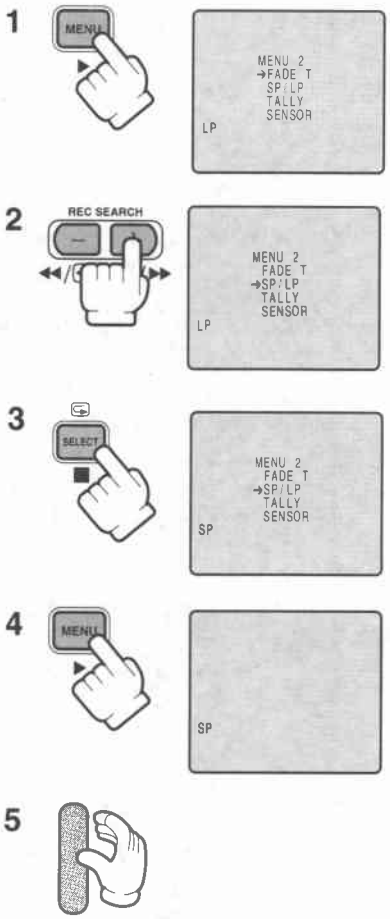
2. Use +/– buttons to align arrow with SP/LP.

3. Press SELECT button to choose tape speed.
- Each time SELECT button is pressed, tape speed display in viewfinder changes to SP or LP.

4. Press MENU button once.
- Menu disappears from viewfinder.

5. Press start/stop button to start recording.

To change tape speed, repeat steps 1-4.



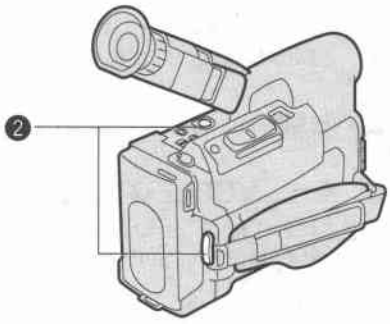
Recording Date and Time (CAMERA Mode)

By using auto date/time function, date and time of the recording can be included in the scene. Date and time can be recorded separately or together.

• For setting date and time (see page 22).

❶ **DATE Button**

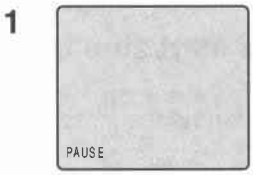
❷ **Start/stop (START/STOP) Button**

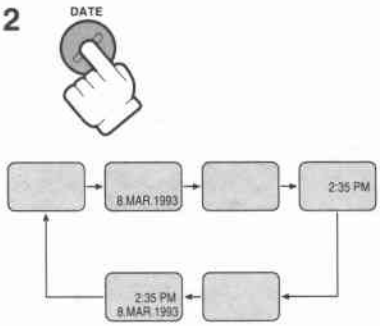


1. Place camera in record pause mode.

2. Press DATE button and select display.

• Each time button is pressed, display changes as shown.



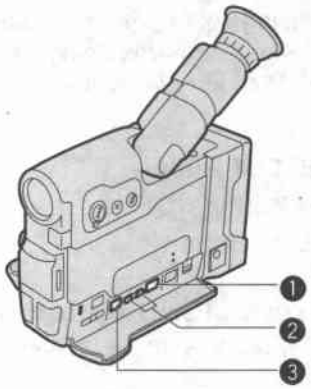


3. Press start/stop button to start recording.

• Date and/or time are superimposed and recorded.

Tally Lamp off Function (CAMERA Mode) MENU 2

The tally lamp informs both operator and subject of camera operations. However, when recording through glass or recording close-ups, the flashing of the tally lamp may be reflected in glass or from the close-up subject. In such cases, it is possible to turn off the tally lamp so that it emits no light.



❶ **SELECT Button**
❷ **+/– Buttons**
❸ **MENU Button**

1. **Press MENU button twice.**
   • MENU 2 is displayed in viewfinder.

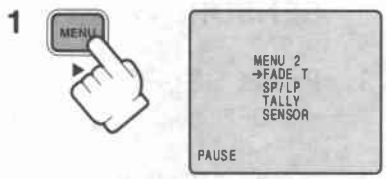
2. **Use +/– buttons to align arrow with TALLY.**

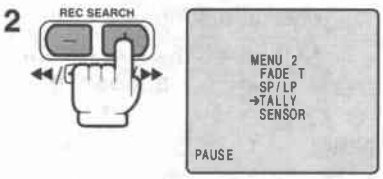
3. **Press SELECT button.**
   • "T OFF" appears in viewfinder.

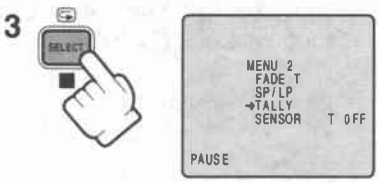
4. **Press MENU button once.**
   • Menu disappears from viewfinder.
   • To turn tally lamp on again, repeat steps 1-3 and "T OFF" disappears from the viewfinder.

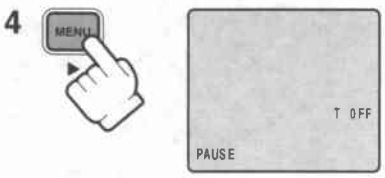
Note:

• The tally lamp also lights when the remote sensor receives a signal from the wireless controller, even if the tally lamp off function is selected.





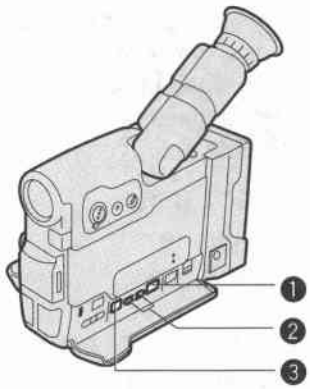




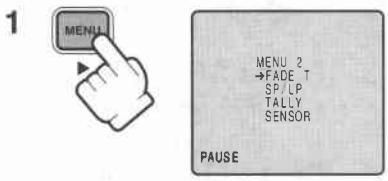
Remote Sensor off Function (CAMERA Mode) MENU 2

While using your camera, wireless controllers from other Canon video cameras being used nearby may affect your camera. In such cases, it is possible to turn the remote sensor off.

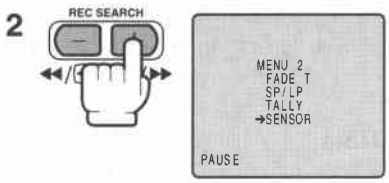
❶ **SELECT Button**
❷ **+/– Buttons**
❸ **MENU Button**



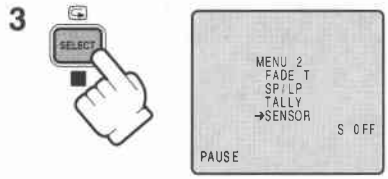
1. Press MENU button twice.
- MENU 2 is displayed in viewfinder.



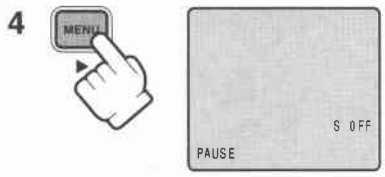
2. Use +/– buttons to align arrow with SENSOR.



3. Press SELECT button.
- "S OFF" appears in viewfinder.



4. Press MENU button once.
- Menu disappears from viewfinder.
- To turn remote sensor on again, repeat steps 1-3 and "S OFF" disappears from viewfinder.



Note:
- The remote sensor off function operates only in CAMERA mode. When in PLAY mode, the camera will respond to Canon wireless control signals.

Using an External Microphone [1]

When recording in quiet places, the sound of the camera operation may be picked up by the camera's internal microphone. For better sound quality an external microphone can be attached to the camera with the optional SA-1 Adapter Bracket (see page 81). The use of Canon MM-200 Stereo Mixing Microphone is recommended.

1. Attach microphone to camera using the SA-1.
- For further details, refer to SA-1 instruction manual.

2. Connect external microphone plug to MIC terminal on camera.

Note:
- When using a commercially available microphone, be sure it is a stereo microphone.

[1]

1

2

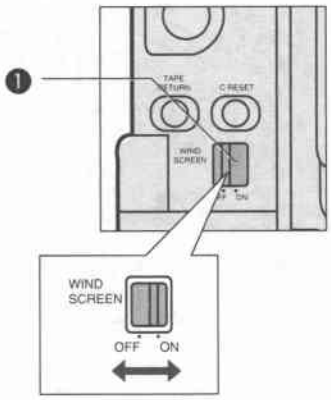
Wind Screen Function [2]

When recording outdoors, the wind noise may disrupt the sound you wish to record. The built-in wind screen function reduces the wind noise.
However, if you are recording indoors or in a location where there is no wind, the wind screen function can be turned off.

❶ **WIND SCREEN Switch**

Note:
- Wind screen function does not work with an external microphone.

[2]



Using a Tripod [3]

It is recommended that the camera be attached to a tripod for recording in the following situations.

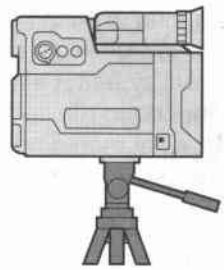
- Telephoto recording
- When the wireless controller is being used

Load the video cassette before mounting the camera on a tripod.

Notes:

- When using a tripod, do not operate the EJECT switch.
- Avoid direct sunlight entering the viewfinder. The lens concentrates the rays which then melt the viewfinder casing.
- When using a tripod, make sure that the fastening screw is no longer than 6.5 mm. A screw longer than 6.5 mm will damage the camera. ❶

[3]



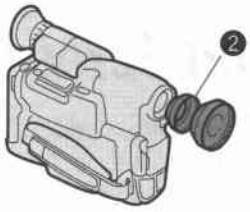
Using Filters [4]

Optional filters or converters, such as FS-37U Filter Set, the TL-37 Tele-converter, and the WD-37 Wide-converter can be used by attaching the optional SR-27/37 Step-up Ring.

- When using the step-up ring, the lens cap cannot be attached.

❷ **SR-27/37 Step-up Ring**

[4]



Editing to Another VTR (PLAY Mode)

With the help of a second VTR, your camera can also be used as a playback VTR to edit your recording.

Connection Procedure

You need the DC-200 DC Coupler and CA-200 Compact Power Adapter (or CB-110 Car Battery Adapter).
• Turn camera off when connecting.

The connecting accessories included in the kit vary according to areas. Use the following chart to determine what your kit should contain:

	UK, EUROPE, etc.	ASIA, OCEANIA, etc.
S-150 S-Video Cable	1	1
ST-150 Stereo Cable	1	1
C-150 AV Cable	–	1

Using VTR with S-video Input Terminal Stereo 1

Connect S-VIDEO/audio terminal of camera to S-video/audio terminal of VTR using the S-150 S-video Cable and stereo cable.

❶ **To Audio Terminals (Ⓛ white=left; Ⓡ red=right)**
❷ **To S-VIDEO Terminal**
❸ **Stereo Cable (white=left; red=right)**
❹ **S-150**
❺ **To S-video Input Terminal**
❻ **To Audio Input Terminals**

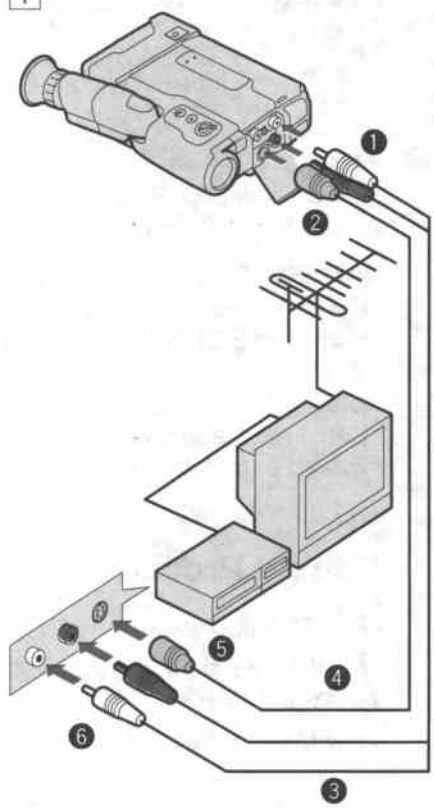
Using VTR with Audio/Video Input Terminals Stereo 2

Connect audio/video terminal of camera to audio/video terminal of VTR using a stereo cable and the C-150 AV Cable.

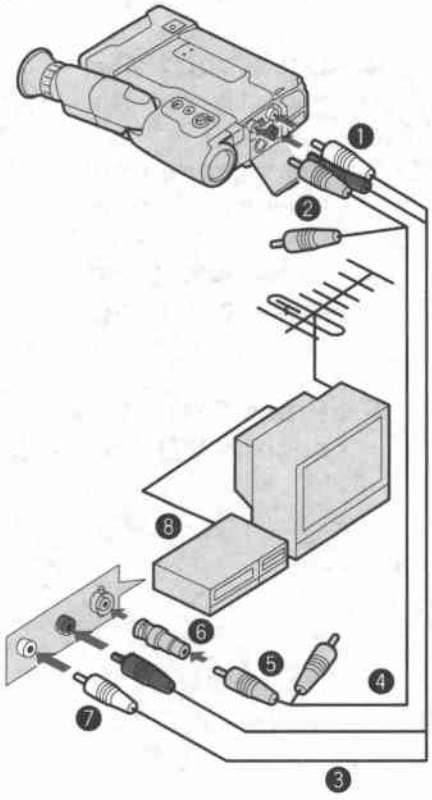
❶ **To Audio Terminals (Ⓛ white=left; Ⓡ red=right)**
❷ **To Video Terminal (yellow)**
❸ **Stereo Cable (white=left; red=right)**
❹ **C-150 [yellow=video; white(or black) plug is not used]**
❺ **To Video Input Terminal**
❻ **BNC Adapter***
❼ **To Audio Input Terminals**
❽ **Second VTR (recording)**

* If TV has BNC-type video input terminal, attach a commercially available BNC adapter to C-150 AV cable.

1



2



Preparations

TV [3]
Turn TV on and set TV to video channel, or set TV/VTR selector to VTR.

VTR [4]
Turn on second VTR and load a recordable video cassette. See VTR instruction manual for details.

CAMERA [5]
Turn camera on and load video cassette for playback. Press MODE SELECT button to select PLAY mode.

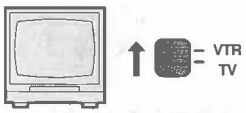
Note:
- Both image and sound quality of edited tape will be somewhat less than that of the original.

Editing Procedure [6]

❶ **STOP ■ Button**
❷ **REW ◄◄ Button**
❸ **FF ►► Button**
❹ **PLAY ► Button**

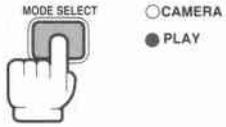
1. **Locate a point slightly ahead of editing start point on video cassette in camera.**
2. **Set second VTR to record pause mode.**
   - Select LINE IN mode on second VTR.
3. **Press camera PLAY ► button.**
   - Check playback picture on TV screen.
4. **Release second VTR from record pause mode at editing point.**
   - Recording begins on second VTR.
5. **Press STOP ■ button on camera and second VTR to end editing.**

[3]

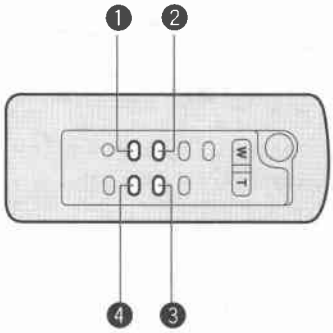


[4]

[5]



[6]



1

2

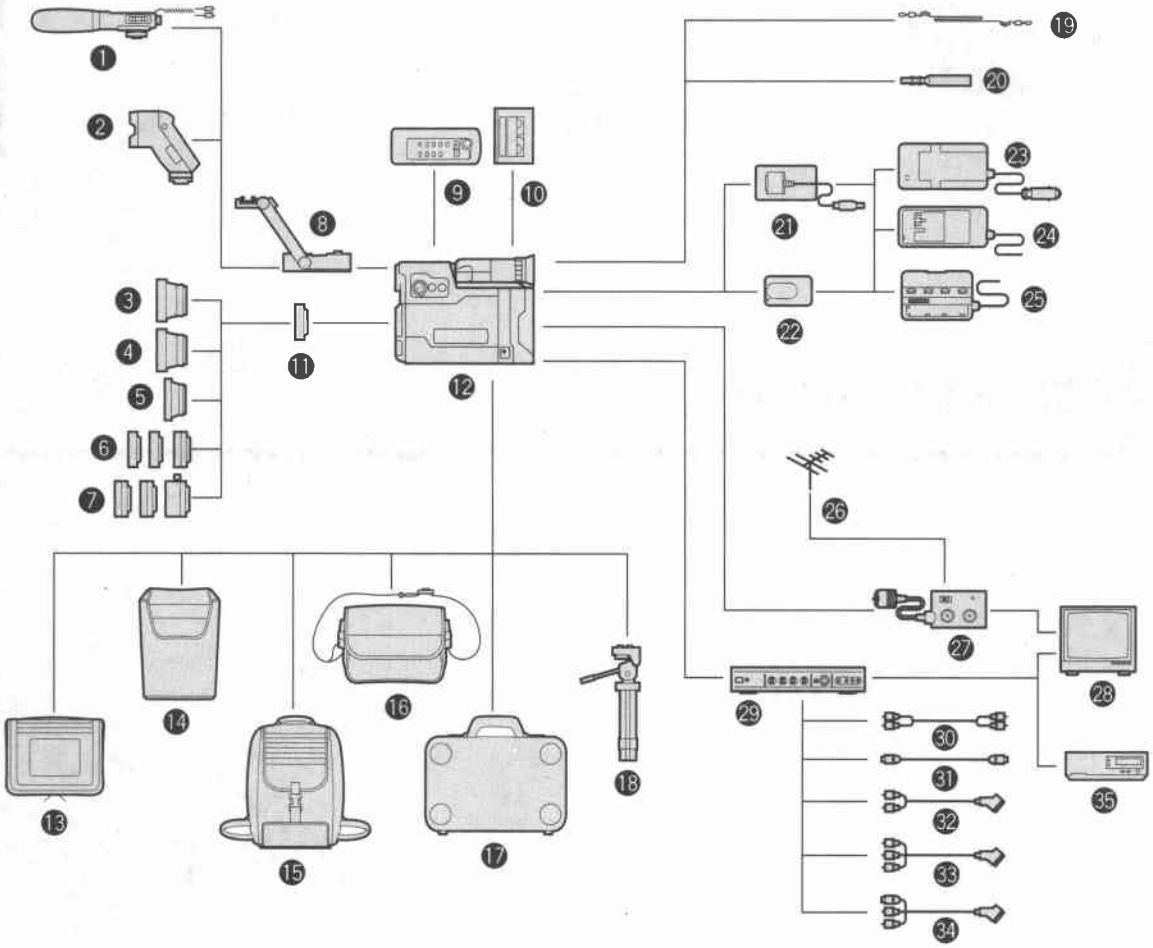
3

4

5

Additional Information

Canon UC30Hi Video System Chart



❶ MM-200 Stereo Mixing Microphone
❷ VL-20 Battery Video Light
❸ WD-37 Wide-converter
❹ WA-37 Wide Attachment
❺ TL-37 Tele-converter
❻ FS-37U Filter Set
❼ FS-37 Filter Set
❽ SA-1 Adapter Bracket
❾ WL-51 Wireless Controller
❿ 8mm Video Cassette
⓫ SR-27/37 Step-up Ring
⓬ UC30Hi
⓭ RS-U2 Rain Shield
⓮ SJ-U1 Soft Video Jacket
⓯ VK-U1 Video Backpack
⓰ SC-U1 Soft Carrying Case
⓱ HC-U2 System Case
⓲ Tripod
⓳ SS-200 Shoulder Strap
⓴ WS-20 Wrist Strap
㉑ DC-200 DC Coupler
㉒ BP-E77K/BP-E722/BP-E722D Battery Pack
㉓ CB-110 Car Battery Adapter
㉔ CA-200/CA-100 Compact Power Adapter
㉕ MC-100 Multi-battery Charger
㉖ Aerial
㉗ RU-100 RF Unit
㉘ TV
㉙ RGB-100 RGB Converter (available in U.K. and Continental European countries)
㉚ C-150 AV Cable
㉛ S-150 S-video Cable
㉜ PC-150 SCART Cable
㉝ PC-170ST Stereo SCART Cable
㉞ PC-270SST S-stereo SCART Cable
㉟ VTR

Optional Accessories

HC-U2 System Case [1]

The optional HC-U2 System Case stores and helps protect the camera and its accessories during transportation and storage.

Items Stored in the System Case

The following items can be stored:

1. **TL-37 Tele-converter, WD-37 Wide-converter, WA-37 Wide Attachment or a filter set**
2. **Two battery packs**
3. **One additional video cassette**
4. **RU-100 RF Unit**
5. **Cables**
6. **Camera with video cassette, shoulder strap/wrist strap**
7. **CA-200 Compact Power Adapter (or CB-110 Car Battery Adapter)**
8. **DC-200 DC Coupler**

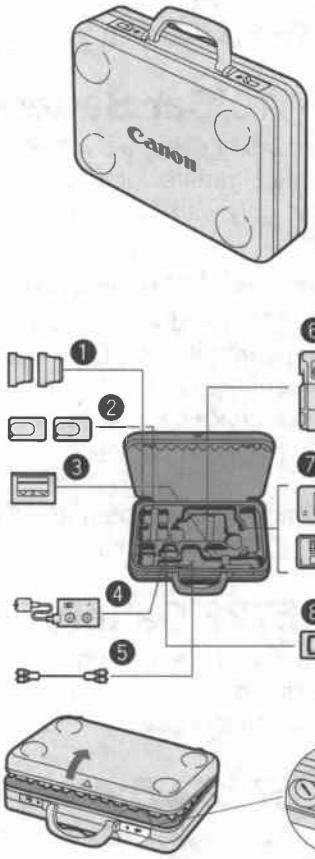
Opening and Closing Case

To open, place the case so that the UP sign is on top, then slide the two latches toward the outside.

Notes:

- Two keys are provided with the HC-U2 System Case.
- Power is slowly drained while the battery pack is attached to the camera, even when the camera is turned off. Remove the battery pack when you don't expect to use the camera.

[1]



SC-U1 Soft Carrying Case [2]

The optional SC-U1 Soft Carrying Case provides lightweight protection for the camera and accessories.

[2]

VK-U1 Video Backpack [3]

The optional VK-U1 Video Backpack is a handy portable case for transporting camera and accessories. Its full-length zipper opening allows the contents to be put in and taken out easily.

[3]

CA-100 Compact Power Adapter [4]

Plug into mains outlet.
Input voltage: 100–240 V AC, 50/60 Hz

CB-110 Car Battery Adapter [5]

For recording using a car battery.
Plug into cigarette lighter socket.
For use only with 12 or 24 V DC negative ground battery.

MC-100 Multi-battery Charger [6]

MC-100 Multi-battery Charger is a sequential high-speed charger controlled by a microcomputer for charging up to four Canon battery packs. Also the MC-100 automatically performs charging, discharging and recharging to refresh battery packs.

- Charging time: 45 min. (BP-E77K)
  90 min. (BP-E722/BP-E722D)

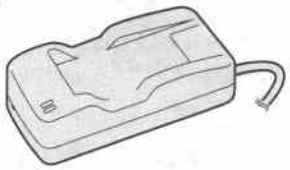
BP-E722 Battery Pack [7]

Use for lengthy recording. Its continuous recording time is approximately 100 minutes. Hold the camera with both hands when using this battery.

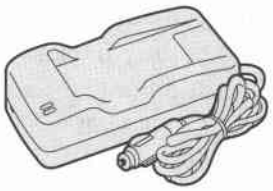
BP-E722D Battery Pack [8]

This battery pack is equipped with an LED display for indicating the remaining charge. Use it for lengthy recordings. Like the BP-E722, it has a continuous recording time of approximately 100 minutes. Hold the camera with both hands when using this battery.

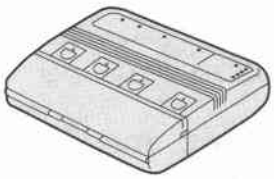
[4]



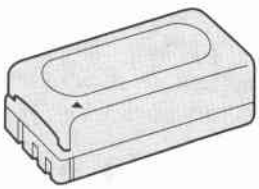
[5]



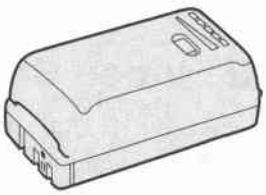
[6]



[7]



[8]



SJ-U1 Soft Video Jacket [9]

The SJ-U1 Soft Video Jacket, designed for convenient transportation of the camera, protects it from dust and scratches.

RS-U2 Rain Shield [10]

A vinyl cover to protect the camera from light rain or mist.

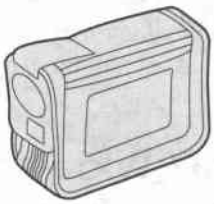
- The wireless controller does not operate when the RS-U2 Rain Shield is attached to the camera.

SA-1 Adapter Bracket [11]

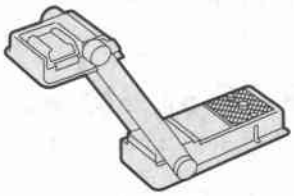
Use to attach an external microphone or a battery video light to the camera.

[9]

[10]



[11]



MM-200 Stereo Mixing Microphone 12

The MM-200 enables sound from the microphone and music to be mixed.

VL-20 Battery Video Light 13

This light, compact option uses the BP-E77K, BP-E722 or BP-E722D Battery Pack and is ideal for indoor and outdoor shooting.

TL-37 Tele-converter 14

This optional tele-converter is a magnification converter lens that increases the focal length of the camera lens by a factor of 1.4.

WD-37 Wide-converter 15

This optional wide-converter decreases the focal length by a factor of 0.75.

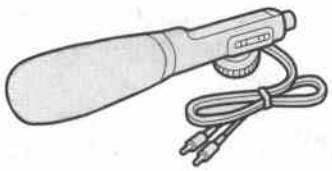
WA-37 Wide Attachment 16

This optional wide attachment decreases the focal length by a factor of 0.75.

SR-27/37 Step-up Ring 17

Use this step-up ring to attach the optional 37mm-diameter tele-converter, wide-converter, wide attachment, or a 37mm-diameter filter for the camcorder to the lens of the camera.

12



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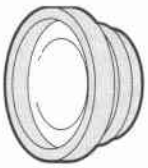

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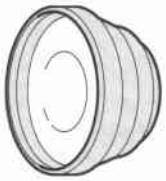

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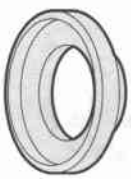


FS-37U Filter Set 18

The optional FS-37U Filter Set contains three filters: UV, ND8 and circular PL.

- If a filter is used when shooting in wide-angle end, vignetting will occur at periphery of picture (edge of picture becomes dark and blurred).

FS-37 Filter Set 19

The optional FS-37 Filter Set contains three filters: multiple-image filter 5×, R-cross filter 6× and zoom spot filter.

- If a filter is used when shooting in wide-angle end, vignetting will occur at periphery of picture (edge of picture becomes dark and blurred).
- Use power focus when using these filters.

WS-20 Wrist Strap 20

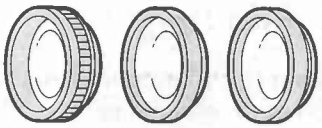
The optional wrist strap provides an extra measure of protection for active shooting.

RGB-100 RGB Converter 21

This converter allows you to convert an S-VIDEO signal into an RGB signal: Now you can enjoy superb Hi8 picture quality on a TV without an S-VIDEO terminal, if it is equipped with a SCART (Peritelevision) terminal that corresponds to an RGB signal.

- Available in U.K. and Continental European countries only.

18



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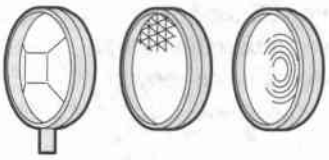

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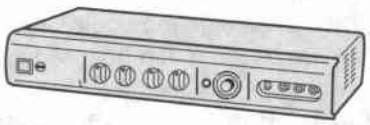


Cautions

During Use

Avoid High Temperatures and High Humidity.
Do not expose the camera to high temperatures or high humidity, such as inside a car during hot weather, when all the doors and windows are shut. Such exposure can cause damage.

Avoid Exposure to Strong Electromagnetic Waves.
Do not use the camera close to sources of magnetic or electric fields (power plant, TV tower, TV set, magnets, motors, audio equipment, etc.)

Do Not Expose the Camera to Rain or Water.
Place protective covering over the camera if you'll be recording in the rain. If, somehow, water does get into the camera, contact qualified service personnel as soon as possible.

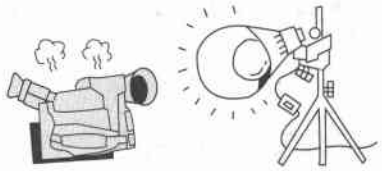
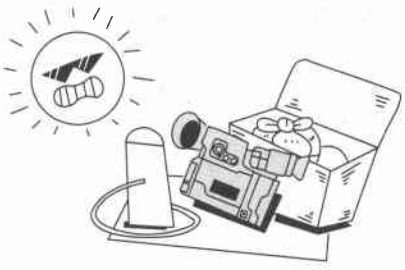
Avoid Pointing the Lens into Direct Sunlight or Other Strong Light Sources.
Do not aim the lens directly at the sun or other strong light, or leave the lens aimed at subjects with great brightness since this can cause damage.

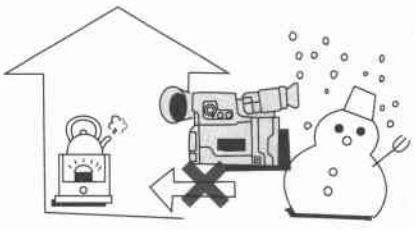
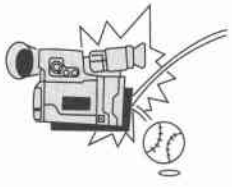
Do Not Expose the Camera to Excessive Heat.
When using lighting equipment, be sure not to expose the camera to too much heat radiating from such equipment.

Always Replace the Lens Cap.
Always replace the lens cap after use to prevent sand and dust from getting on the lens. Be especially careful to affix cap on windy days.

Avoid Sudden Changes in Temperature.
If the camera is suddenly brought into a warm place from a cold place, condensation can form on the internal parts and lens. So take appropriate care when moving the camera.

Do Not Expose the Camera to Shock or Vibration.
Be sure to handle camera gently. Vibration can cause damage.

Maintenance

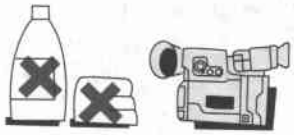
Keep the Heads Clean.
The video heads should be cleaned only when necessary, preferably with the Canon 8mm Video Head Cleaning Cassette CC-8 included in the optional Canon 8mm Video Cleaning Kit CK-E1.

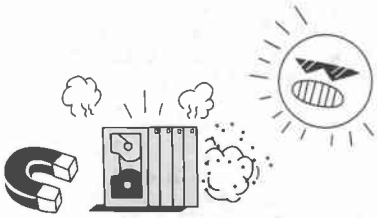
Clean the Camera with a Soft, Dry Cloth.
The camera should be cleaned using a soft, dry cloth. Do not use chemically treated cloth or volatile solvent such as paint thinner, since this can damage the camera.

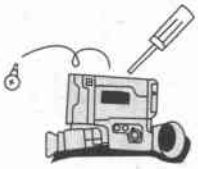
Store Camera Properly.
If you do not intend to use the camera for some time, store it in an area free of moisture and dust, and where ambient temperature is no higher than 30°C.

Check the Operation of Each Component.
If the camera has not been used for a long time, be sure to check that each component functions correctly before use.

Store Cassette Tape Properly.
Do not place video cassettes in areas exposed to direct sunlight, near heat-radiating sources such as stoves, or close to magnetic bodies such as speakers, since these can cause tape deformation and damage to valuable recordings.







Safety Precautions

Do Not Disassemble the Camera.
It is very dangerous to disassemble the camera or touch any of its internal parts. If camera does not function properly, take it to qualified service personnel.

Using the Battery Pack.
Carefully read the instruction of the battery pack before use.

Problems and Troubleshooting

Use the following checklist for troubleshooting when you have problems with your camera. Consult your local dealer or service outlet if problems persist.
Be sure all connections are properly made when using the camera with other units.

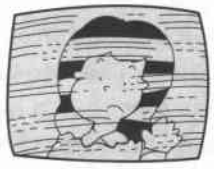
Problem	Cause	Remedy
Camera does not turn on.	Battery pack charge is low.	Replace with fully charged battery pack.
Camera turns off during operation (using battery pack).	Battery pack charge is low.	Replace with fully charged battery pack.
	Record pause mode has lasted for more than five minutes.	Turn camera on again.
Video cassette compartment does not open.	Battery pack charge is low.	Replace with fully charged battery pack.
Camera does not function when an operation button is pressed.	Camera is turned off.	Turn camera on.
	Video cassette is not loaded.	Load a video cassette.
	Battery pack is not properly attached to camera.	Attach battery pack securely to camera (see p. 14).
CAMERA or PLAY indicator flashes and "BATT" flashes in viewfinder.	Battery pack charge is low.	Replace with fully charged battery pack.
CAMERA or PLAY indicator flashes and "DEW" flashes in viewfinder.	Condensation has formed inside unit.	Refer to Condensation (see p. 88).
CAMERA or PLAY indicator flashes and "EJECT" flashes in viewfinder.	Safety mechanism is activated.	Unload and reload video cassette.
"DATE" flashes in viewfinder. Date and time are incorrect or have stopped operating.	Internal lithium battery is discharged.	Attach a power source (see p. 15).
Start/stop button is pressed, but recording does not start.	Camera is turned off.	Turn camera on.
	Video cassette is not loaded.	Load a video cassette.
	Tape has ended ("T. END" appears in viewfinder).	Rewind tape or use another video cassette.
	Erasure prevention switch on video cassette is set to prevent recording ("TAPE" flashes in viewfinder).	Use another video cassette or set switch to enable recording (see p. 26).
	Camera is in PLAY mode.	Press MODE SELECT button.
No picture appears in viewfinder.	Lens cap is attached.	Remove lens cap.
	Camera is in PLAY mode.	Press MODE SELECT button.

Note:
This equipment contains a microprocessor. If external noise or interference occurs, random letters may appear in the viewfinder or normal operation may be interrupted. In this case, remove the power source and then replace it.

Problem	Cause	Remedy
Cannot adjust focus.	Subject is not suitable for autofocus.	Adjust focus in power focus mode.
	Viewfinder diopter is not properly adjusted.	Turn diopter adjustment ring until viewfinder display becomes clear (see p. 21).
	Lens is dirty.	Clean the lens using a dry, soft cloth with due care not to scratch it.
	The finder is not pulled out.	Pull finder out.
Wireless controller does not operate.	SENSOR OFF mode is selected.	Cancel SENSOR OFF mode.
Tally lamp does not light or flash.	TALLY OFF mode is selected.	Cancel TALLY OFF mode.
Playback doesn't start when ▶ (PLAY) button is pressed.	Camera is in CAMERA mode.	Press MODE SELECT button.
	Camera is turned off.	Turn camera on and press MODE SELECT button.
	Video cassette is not loaded.	Load a video cassette.
	Tape has ended ("T. END" appears in viewfinder).	Rewind tape or use another video cassette.
Tape is moving, but no picture appears on TV monitor.	For TV without audio/video input terminals: Video channel is not set properly on both TV and RF unit.	Set TV and RF unit to appropriate video channel.
	For TV with audio/video input terminals: TV/VIDEO selector on TV is not set to VIDEO.	Set TV/VIDEO selector to VIDEO.
	Video heads are dirty.	Clean video heads using optional CK-E1 8mm Video Cleaning Kit.

Playback appears rough

Although the TV program has been cleanly copied, the video playback appears rough. This is due to dirty video heads. Video heads should be cleaned using the optional CK-E1 8mm Video Cleaning Kit. For further details, refer to the CK-E1 instruction manual.



Condensation (DEW)

What is condensation?

Condensation (DEW) means tiny droplets of water that occasionally form on the camera surface when it is moved from a cold place to a warm place. Using the camera when condensation is present may damage both tape and camera.

Preventing condensation

Remove video cassette and place camera in a plastic bag prior to bringing it into a warm area where condensation is likely to occur. Wait until camera reaches room temperature before removing it from the bag.

When condensation is detected 1

When condensation is detected in the camera, the CAMERA or PLAY indicator flashes, and "DEW" flashes in the viewfinder. If a video cassette is loaded, "EJECT" flashes in the viewfinder and the tape automatically stops. Immediately remove video cassette, leave video cassette compartment open and turn camera off. Leave camera in a dry place until condensation evaporates.

- Sometimes "DEW" may not appear in the viewfinder until 10-15 minutes after condensation has formed.
- You cannot load a video cassette when condensation is detected in the camera.

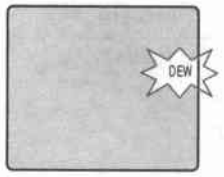
To start using camera again

Even when "DEW" and the CAMERA or PLAY indicator no longer flash when the camera is turned on, wait at least one more hour before attempting operation. The time required for condensation to clear varies with surrounding conditions; it can be as long as one hour.

Condensation is likely to occur when: 2

1. **Camera is brought from a cold place to a warm place.**
2. **A cold room is heated rapidly.**
3. **Camera is placed in a humid room.**
4. **Camera is taken from an air-conditioned room to a warm and humid place.**

1



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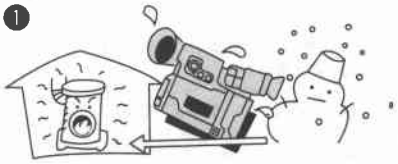

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3

4

Specifications

UC30Hi

Power supply (rated):	6 V DC
Power consumption:	6.6 W during recording in autofocus mode
Television system:	CCIR standard (625 lines, 50 fields) PAL colour signal
Video recording system:	4 rotary heads, helical scanning system Luminance signal: FM azimuth recording Colour signal: Converted subcarrier phase shift recording (8mm video standard)
Audio recording system:	Frequency multiplexing with the video signal by 4 rotary heads (two channels)
Image sensor:	1/3-inch CCD (Charge Coupled Device) 470,000 pixels (440,000 effective pixels)
Tape format:	8mm, metal evaporated/metal particle
Tape speed:	20.051 mm/s (SP) 10.026 mm/s (LP)
Maximum recording time:	3 hours with P5-90 video cassette, in LP mode
Lens:	f/1.8, 8× power zoom, 6-48 mm focal length
Focusing system:	TTL autofocus, manual focusing possible (using power focus buttons)
Minimum focusing distance:	10 mm wide-angle end 0.7 m telephoto end 0.9 m intermediate zoom position
Minimum illumination:	3 lux
Recommended illumination:	More than 100 lux
Diameter for step-up ring:	27 mm
Electronic viewfinder:	0.5-inch monochrome CRT
Microphone:	Stereo electret condenser microphone
Input level:	Audio: –64 dBV/600 ohms, unbalanced (external mic);
Input impedance:	More than 6 kohms (external mic)
Output level:	Video: 1 Vp-p/75 ohms, unbalanced (video terminal); 1 Vp-p (Y signal)/0.286 Vp-p (C signal) (S-video terminal); Audio: –10dBV/less than 3 kohms, unbalanced (audio terminal)
Dimensions (W × D × H):	79 × 131 × 171 mm
Weight:	550 g excluding battery pack

RF Unit RU-100

Power source:	5 V DC
Power consumption:	40 mA (max.)
RF output:	30-39 channels selectable
Dimensions (W × D × H):	75 × 30.4 × 51 mm
Weight:	200 g

Weight and dimensions are approximate. Errors and omissions excepted.
Subject to change without notice.

INDEX

A

AC Power 18

Autofocus 50

B

Backlight 64

Battery Pack 14

Blank Tape Search (B.T.S.) 65

C

CAMERA and PLAY Modes 30

Camera Preparations

- Grip Belt 20
- Straps 20
- Diopter 21
- Removing and Attaching Finder 21

Camera Recording 32

Car Battery 18

Charging Battery Pack 14

Condensation (DEW) 88

E

Edit-erase 58

Editing to Another VTR 75

External Microphone 73

F

Fade In/Out 66

Focusing 50

H

High-Speed Shutter 60

L

Loading and Unloading Video Cassettes 25

M

Menu System 56

P

Playback Connection (PLAY Mode) 38
Playback on a TV (European Model) 40
Playback on a TV (Australian Model) 42

Playback Procedure 44

POWER FOCUS Buttons (F/N) 52

Problems and Troubleshooting 86

Program AE 54

R

Rechargeble Lithium Battery 24

Recording Date and Time 70

Record Review 37

Record Search 36

S

Selecting Video Channel 41

Setting Date and Time 22

Special Playback Methods 46
Fast Forward Playback 46
Rewind Playback 46
Still Playback 46

T

Tally Lamp off Function 71

Tape Return 48

Tape Speed 69

Tripod 74

V

Viewfinder Displays 10

W

Warning Displays
Battery Pack Warning 35
Video cassette Warning 35

White Balance 62

Wireless Controller 8

Z

Zooming 53

MEMO

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